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FRONTISPIECE — Rescue at Sea**EDITORIAL**

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A. Sharkey, MSc, FRSS

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SYMPOSIUM ON PATHOLOGY IN THE ROYAL NAVY**LETTER TO THE EDITOR****BOOK REVIEWS****SERVICE NEWS****THE GILBERT BLANE MEDAL****THE HARBEN GOLD MEDAL****NOTICE****EDITORIAL COMMITTEE**

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By courtesy of Navy News

A Sea King helicopter answers a distress call from a Spanish trawler 140 miles south west of RNAS Cullrose. A crewman had sustained severe leg injuries when a wire snapped on deck and medical officer and patient are shown being winched into the helicopter for the journey to Treliiske Hospital, Truro.

Editorial

It is pleasing to report that our subscribers continue to increase, but sadly not our contributors on the active list. Much of the work of medical naval officers is "buried" in the specialist journals of the medical press, and in future we will publish more summaries of their work appearing in that way, if only to record it in the JRNMS. But general articles on personal and medical experiences are of interest to our subscribers on the retired list, the reserve, our civil consultants and all those who value their connections, past or present, with our Service sufficiently to subscribe. Our wide official circulation in medical circles at home and abroad has now been extended to include all Naval Flag Officers.

At the moment our Service is beset with day to day problems: indeed, we seem to be blinkered by them to the exclusion of proposing new methods of deploying our expertise. Most recognise, within our Service, that we need structural changes in our conditions of service and our organisation. It is sad to see the waste of scarce expertise. But these are merely irritating and transitory difficulties and the outlook is good. Perhaps our scientific and professional attitude survey will establish the facts necessary to persuade the unconvinced of the way ahead, and assist the Medical Department in their difficult task of planning and implementing the changes that most think are needed.

We all have emotive, if not practical and personal, links with the sea and the seapople we serve. The oceans are a good model where long term currents achieve more and wider effects than even the most

dramatic and eye catching surface wave-pattern — though the odd storm is not without its local drama which may pose its problems. The long-term current throughout the history of our Service has always been towards increased professionalism. The current slowed with the influx in the 1920's and was followed by the doldrums of the 1930's, to rise in the 1940's with pre-war volunteers and the dedicated RNVR, at sea, and in the extended auxiliary naval hospitals. There were great advances in professionalism in the 1960's though mainly in the hospitals and hospital specialities. The 1970's have been confused by specious economy exercises and real personnel shortages but the 1980's could see consolidation of the advances of the 1960's and their extension to the non-hospital specialties — and that would include the generalities of primary care; at the sharp end, in general practice, and in occupational medicine.

Despite technical advances in weaponry we cannot write out the man. Indeed there is an increased need for environmental and human factors research to utilise to the full the skills of the complex man required to operate and direct complex systems. One needed to be tough and free from the ruptures of scurvy avitaminosis to work a muzzle loading 32 pounder. One needs nous, and physical and mental stamina for the alertness and awareness needed to operate and direct a computer weapons system.

The problems of other medical services are always of interest. The recent visit of the Chinese medical delegation was of great

potential and clearly our advice is now being sought, and we can learn from each other. Their naval visits were to Haslar and INM and we established a good rapport. Since the JRNMS has value as a source of historical records — we go back in our records unbroken to 1915 — small photographs to record the visits are included in the Service news. Some of the statistics and records in articles in past Journals are now the only source of such information that is readily available for anyone ferreting about in our recent history. In doing so it's amusing to see what others have written in their youth and to re-read the opinions and objectives of our

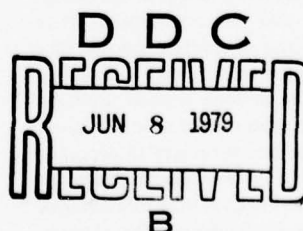
predecessors.

This is a thin Journal, for which we apologise. Perhaps our contributors have been reading Bertrand Russell¹. Certainly the laziness which disguises itself by ceaseless and often pointless activity is all too common: and the post-box syndrome benefits no-one and eventually rots the post-box holder. It is perhaps a relief not to be plagued by such contributors — but we would like more original articles from which to select, particularly from serving officers.

1. In Praise of Idleness: Essays. B. Russell, 1935.



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Blood Loss during Abdominal Hysterectomy

B.E. Lambert, D.A. Logan and A. Sharkey

ABSTRACT

The blood loss was calculated during 85 abdominal hysterectomies. It increased with the patient's age and weight and the duration of surgery. The loss was least in those patients operated on in the second week after a menstrual period. Only 12 per cent of patients required a blood transfusion during operation.

Introduction

The literature gives little information on blood loss during gynaecological operations, but it does describe acceptable methods of measuring the loss. The first satisfactory report was in 1924: Gatch and Little reported blood losses at standard abdominal hysterectomy to be between 200 and 300 cc. Pilcher and Sheard (1937) noted a 650 cc loss during a vaginal hysterectomy. In the following years scattered reports of gynaecological procedures were published, among other surgical operations, with varying blood loss. In approximately 100 abdominal hysterectomies the losses reported ranged between 50 cc and 1,500 cc. From a review of these cases it is evident that there are a large number of variants that need to be considered.

Roach *et al* (1972) reported that in 100 patients undergoing vaginal hysterectomy for sterilisation, the blood loss was significantly lower when the operation was carried out in the second half of the menstrual cycle.

The present investigation was initiated to determine the effect of age, weight, parity, endometrial histology and length of operation on blood loss during abdominal hysterectomy.

Patients and Method

Eighty-five patients undergoing abdominal

hysterectomy over a three month period were studied. Consecutive cases could not be studied, but at no time were selections or deletions made other than the availability of personnel to calculate the blood loss. Nineteen surgeons took part in the trial and all performed a standard total abdominal hysterectomy (with removal of the ovaries where indicated). Nineteen anaesthetists were involved in the trial and there was no "standard" anaesthetic. Most patients had anaesthesia induced by thiopentone, followed by a relaxant, and were ventilated with oxygen and nitrous oxide. Intravenous analgesia was given as necessary. Forty-eight patients had the same anaesthetic: induction with thiopentone, alcuronium (alloferin), fentanyl, intubation with a cuffed tube under direct vision, and intermittent positive pressure respiration with oxygen and nitrous oxide. Reversal of anaesthesia was with atropine and neostigmine. Two patients had epidural anaesthetics and it is remarkable that their blood pressure showed little variation during the operation.

The operative blood loss was calculated by a gravimetric technique. Swabs in a dry state are fairly uniform in weight, and making the assumption that 1 ml of blood weighs 1 gram, the numerical difference between the weight of used and dry swabs was taken to equal the number of millilitres of blood lost. Where suction was used, the volume of blood in the suction bottle was accurately measured. The amount of blood soaked into drapes was uniformly small and an estimate was made in each case.

Results and Discussion

The average age was 42.2 years; the average duration of surgery 63 minutes (range 32 to 140 minutes). The average blood loss was 386 ml (range 94 to 1324 ml). Surgeons under training (below the grade of senior registrar) took longer over the operations and generally incurred the heavier blood losses.

Blood loss in relation to operation time

The time taken for the operation was measured from the time the drapes were secured to the time of the application of the wound dressing. The results are summarised in table 1 and depicted graphically in figure 1. These results show an increase in blood loss with the total time for the operation. This also demonstrates an increase in blood loss with operative inexperience and with the technically more difficult operations. The mean calculated blood loss was least in those operations that took less than 35 minutes.

Table 1
Blood loss at abdominal hysterectomy related to operation time

Time (min)	Number of cases	Mean (ml)	Standard error of the mean
<35	6	258	57.6
35-45	22	300	24.7
45-55	18	373	31.8
55-65	17	403	44.8
65-75	9	470	56.7
75-85	5	483	56.4
>85	14	559	84.6

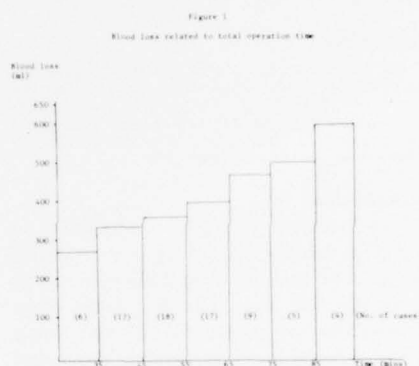
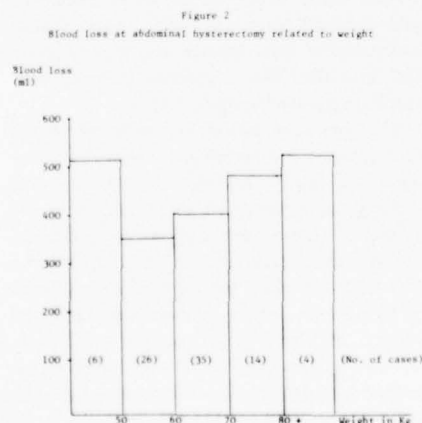


Table 2
Blood loss at abdominal hysterectomy related to weight

Weight (kg)	Number of cases	Mean loss (ml)	Standard error of the mean
<50	6	520	148.2
50-60	26	359	43.6
60-70	35	402	27.5
70-80	14	488	48.0
>80	4	538	88.0



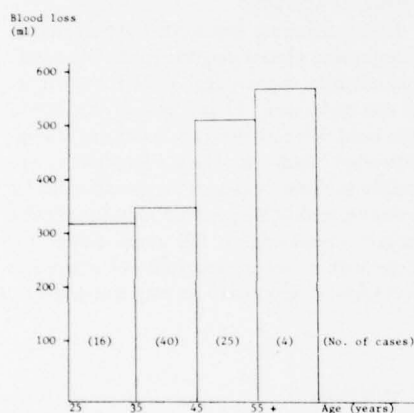
Blood loss in relation to weight

All patients were weighed on admission to the hospital. A comparison of blood lost during the operation between patients of varying weights is summarised in table 2 and shown graphically in fig. 2. The group below 50 kg includes some patients who had very heavy blood loss because of difficult operations. The smallest average blood loss was in weight group 50 to 60 kg. There was a steadily increasing blood loss with weight.

Table 3
Blood loss at abdominal hysterectomy related to age

Age (years)	Number of cases	Mean loss (ml)	Standard error of the mean
25 - 35	16	322	21.8
36 - 45	40	352	35.9
46 - 55	25	536	75.2
over 55	4	570	136

Figure 3
Blood loss at abdominal hysterectomy related to age



Blood loss in relation to parity

These results are shown in table 4 and depicted graphically in fig. 4. From our series, there is no relationship between the blood loss and parity.

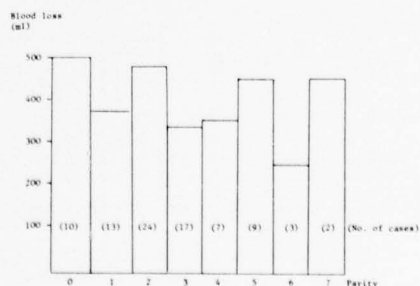
Blood loss in relation to age

The patients were grouped by decades. The results are summarised in table 3 and depicted in graphic form in figure 3. The smallest average blood loss calculated was in that group below 35 years and the largest in the perimenopausal and postmenopausal group. Blood loss at operation appears to increase with advancing age.

Table 4
Blood loss at abdominal hysterectomy related to parity

Parity	Number of cases	Mean loss (ml)	Standard error of the mean
0	10	497	54.7
1	13	365	50.8
2	24	467	58.8
3	17	334	52.3
4	7	348	58.8
5	9	440	48.7
6	3	222	34.1
7	2	438	85.8

Figure 4
Blood loss at abdominal hysterectomy related to parity



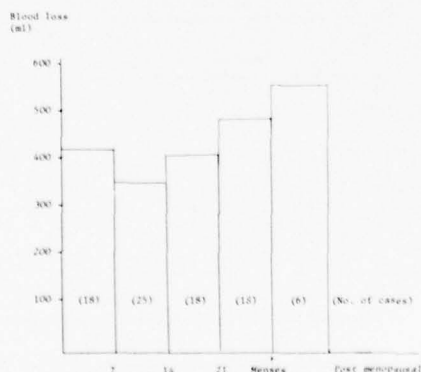
Blood loss in relation to the menstrual cycle

The patients had varying menstrual cycles and in some cases they were irregular. Those patients still menstruating were divided into four groups according to whether they had menstruated less than seven days, between 7 and 14 days, between 15 and 21 days, or more than 21 days before operation. The results are recorded in table 5 and illustrated in fig. 5. Postmenopausal patients had a greater average blood loss than those who were still menstruating, but surgery on the postmenopausal women was usually for very large fibroids or carcinoma of the cervix. Among those patients still menstruating, the smallest average blood loss was in that group who had menstruated between 7 and 14 days prior to operation.

Table 5
Blood loss at abdominal hysterectomy related to the menstrual cycle

Cycle length	Number of cases	Mean loss (ml)	Standard error of the mean
0-7	18	418	27.8
8-14	25	347	36.8
15-21	18	407	27.1
22+ months	18	469	31.8
Post-menopausal	6	545	92.8

Figure 5
Blood loss at abdominal hysterectomy related to the menstrual cycle



Blood transfusion during abdominal hysterectomy

Ten patients were transfused with two units of whole blood during and immediately after the operation. Of this group, three had a haemoglobin below 10.5 gm per cent prior to operation, nine operations took longer than 60 minutes, and in seven the blood loss was in excess of 600 ml. None of the patients had a significantly depressed blood pressure during the operation.

Cross matching blood for patients undergoing major gynaecological surgery is costly and occupies a great deal of laboratory time. In this series only 12 per cent of that blood was used. We feel this fact is worthy of consideration and, as blood substitutes are readily available, perhaps we should consider grouping and holding serum only for routine surgery, reserving a full cross match for those with a low haemoglobin or where the operation is expected to be long and difficult.

Conclusions

1. Blood loss during total abdominal hysterectomy was greater than expected.
2. In this hospital, the average blood loss for operations performed in the last quarter of 1977 was 386 ml.
3. Calculation of the blood loss by the gravimetric method was simple and satisfactory.
4. The blood loss at abdominal hysterectomy increased directly with the age and weight of the patient and the duration of the operation. Buchman (1953) made similar observations in respect of vaginal hysterectomy, but he found no relationship between blood loss and age.
5. The average blood loss was least in those patients who had the operation during the second week after their last menstrual period. Sprague and van Nagell (1974) observed a smaller average loss in the proliferative phase of the cycle.

6. Since, in our series, only 12 per cent of patients required blood transfusion, the requirements that all patients be cross-matched may be unnecessary.

All the data was subjected to regression analysis on the principal variables of: age, weight, parity, haemoglobin, blood pressure variation, length of operation, and phase of the menstrual cycle.

Acknowledgements

Our thanks are due to the nursing staff and consultants of St. Mary's Hospital for allowing us to use their patients in this study, and to Miss J. L. Small for secretarial assistance.

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A Naval Practice Considered

D.P. Pryce

Introduction

The Families Clinics in Malta have seen many patients, staff and different locations through the years. As the era of a British military presence draws to an end, this article is intended to stimulate nostalgia, interest and controversy. A breakdown of the attendances at the Joint Services Families Clinic (JSFC) *Floriana* during two separate months a year apart is presented and the pattern compared with two United Kingdom practices.

It was with enthusiasm and curiosity that one landed at RAF Luqa. "The JSFC *Floriana* is outside the gates of Valetta, just across the ditch". It was not as imagined for the island has to be seen for itself. Thus started a tour that saw the beginning of the withdrawal of British Forces.

During the year April 1976 to April 1977 the medical officers at JSFC *Floriana* were reduced from five to three. There was a corresponding reduction in both nursing and locally employed supporting staff. The latter event was especially sad as some had worked for the Crown for 30 years and more, stories of the war years enlightening many a drive to visits at St. Paul's Bay and elsewhere on the island.

The majority of the work was at the main clinic at *Floriana* and a smaller one at St. Andrew's, home of 41 Commando. However, awaiting a Royal Fleet Auxiliary Vessel at 0300 outside Grand Harbour caused one not only to contemplate diagnostic and language problems but also the question of clearing customs and im-

migration should the patient be landed. Decompression cases from civilian holiday makers during the summer months meant a busy few days for all concerned whilst school lectures and broadcasting presented challenges different from the usual one to one relationship in the surgery.

The Practices Considered

The city figures relate to a United Kingdom practice of three principals and up to two trainees caring for a total of 7,850 patients. Those of the country practice relate to a United Kingdom practice of four principals caring for 7,800 patients.

At JSFC *Floriana* in April 1976 the list total was 4,975 patients cared for by five medical officers. In April 1977 the numbers had fallen to 4,378 and three medical officers.

Analysis of Patient Attendance

The patients were classified according to the Royal College of General Practitioners' and Office of Population Censuses and Surveys' Classification of Morbidity. Table 1 shows the number of attendances during the months of April 1976 and 1977 at JSFC *Floriana* together with those for a month from a city and country practice in the United Kingdom at the same time of the year. Table 2 lists the diagnostic groups in order of frequency and shows the percentages of the groups as of total attendances.

Table 3 shows the ten most frequent presentations at the respective clinics by sex.

Overall, respiratory diseases accounted for

Table 1
Number of male, female and total attendances

	FLORIANA 76			FLORIANA 77			CITY			COUNTRY		
	♂	♀	Total	♂	♀	Total	♂	♀	Total	♂	♀	Total
Communicable Disease	31	55	86	19	27	46	20	34	54	34	41	75
Neoplasm	1	3	4	0	0	0	3	6	9	5	6	11
Allergy and Endocrine	26	53	79	9	16	25	4	14	18	7	12	19
Blood	0	3	3	1	0	1	1	3	4	1	1	2
Mental and Personality	18	130	148	2	64	66	19	38	57	13	19	32
CNS	79	123	202	57	155	212	36	56	92	49	57	106
Circulatory	4	7	11	3	12	15	13	19	32	21	11	32
Respiratory	162	330	492	115	181	296	79	122	201	99	127	226
Digestion	29	60	89	7	8	15	39	38	77	24	13	37
Genito-Urinary	13	135	148	23	142	165	9	55	64	15	39	54
Pregnancy and Childbirth	0	94	94	0	34	34	0	58	58	0	15	15
Skin and Connective Tissue	25	65	90	27	70	97	36	42	78	42	33	75
Bones and Joints	3	49	52	1	26	27	32	39	71	37	27	64
Congenital Malformations	0	1	1	0	0	0	1	0	1	1	3	4
Diseases of Infancy	0	0	0	1	0	1	0	0	0	0	0	0
Symptoms	1	6	7	14	10	24	3	8	11	7	11	18
Trauma	23	32	55	14	19	33	29	20	49	28	25	53
Prophylaxis	26	160	189	41	172	213	33	118	151	57	57	114
TOTAL	444	1306	1750	334	936	1270	357	670	1027	440	497	936

between 20 and 28 per cent of attendances. Likewise approximately 50 per cent of attendances were for respiratory, central nervous system or prophylactic reasons. However, the overall picture may give a false impression. An example of this is that digestive diseases of males in the city (table 3), being the second most frequent reason for attendance, lowered the figure for the above three to 42 per cent in that specific group.

The reasons for attendance are similar in the city and country practices, the exceptions being pregnancy, digestive, mental/personality and communicable diseases. The main differences in the reasons for attendance at JSFC Floriana and the United Kingdom practices were for the

groups mental/personality, genito-urinary, bones/joints and pregnancy (in the country).

The number of male attendances at JSFC Floriana were proportionally much less compared to the United Kingdom practices. This was due to the Serviceman attending his own unit medical officer and thus the primary care of the family being split between two medical officers.

The estimated annual patient attendance rate was much increased at JSFC Floriana compared with the United Kingdom practice. The relevant figures are 4.2 and 3.5 attendances for Floriana 1976 and 1977 respectively compared to 1.6 for the city and 1.4 for the country.

Table 2

Diagnostic groups in order of frequency and per cent of total cases seen

	FLORIANA 76	%	FLORIANA 77	%	CITY	%	COUNTRY	%
1	Respiratory	28.0	Respiratory	23.0	Respiratory	19.6	Respiratory	24.1
2	CNS	11.5	Prophylaxis	16.8	Prophylaxis	14.7	Prophylaxis	12.2
3	Prophylaxis	10.8	CNS	16.7	CNS	8.9	CNS	11.32
4	Mental and Personality	8.5	Genito-Urinary	12.9	Skin and CT	7.6	Communicable Diseases	8.0
5	Genito-Urinary	8.5	Skin and CT	7.6	Digestion	7.4	Skin and CT	8.0
6	Pregnancy	5.4	Mental and Personality	5.1	Bones and Joints	6.9	Bones and Joints	6.8
7	Skin and CT	5.1	Communicable Diseases	3.6	Genito-Urinary	6.2	Genito-Urinary	5.7
8	Digestion	5.0	Pregnancy	2.6	Pregnancy	5.6	Trauma	5.6
9	Communicable Diseases	4.9	Trauma	2.5	Mental and Personality	5.5	Digestion	3.9
10	Allergy	4.5	Bones and Joints	2.1	Communicable Diseases	5.2	Mental and Personality	3.4
11	Trauma	3.1	Allergy	1.9	Trauma	4.7	Circulatory	3.4
12	Bones and Joints	2.9	Symptoms	1.8	Circulatory	3.1	Allergy	2.0
13	Circulatory	<1	Circulatory	1.1	Allergy	1.7	Symptoms	1.9
14	Symptoms	<1	Digestion	1.1	Symptoms	1.1	Pregnancy	1.6
15	Neoplasm	<1	Blood	<1	Neoplasm	<1	Neoplasm	1.1
16	Blood	<1	Diseases of Infancy	<1	Blood	<1	Congenital Malformation	<1
17	Congenital Malformation	<1	Congenital Malformation	<1	Congenital Malformation	<1	Blood	<1
18	Diseases of Infancy	<1	Neoplasm	<1	Diseases of Infancy	<1	Diseases of Infancy	<1

Discussion

The practice at *JSFC Floriana* was a very young one, 80 per cent being below 30 years of age and less than 1 per cent over 65 years. Thus there was a high demand for paediatric and family planning care. The practice was composed mainly of dependants of Service personnel, civil servants, including teachers, and their dependants. Conversely, only 4.5 per cent of the country practice were dependants of Service personnel.

The differences in frequency of attendance between *JSFC Floriana* and the United Kingdom may be explained by the younger age group, the extended family unit situation and the split in the primary care of the family that was found in Malta. The apparent

anomaly (table 3) of pregnancy being a reason for more frequent attendance in the UK city practice raises the question of whether there was sufficient ante-natal care at *JSFC Floriana*. But the Royal Naval Hospital at Mtarfa in Malta took over ante-natal care at 32 weeks and this affected the figures for the JSFC.

The drop in figures (table 1) for *JSFC Floriana* in 1977 compared to 1976 is explained partly by the circumstances of the withdrawal of Armed Forces from Malta. Those people arriving to complete the withdrawal tended to be slightly older. Also the families of 41 Commando Unit returning home influenced the average age in the practice and the figures such as those for

Table 3
Ten most frequent presentations at respective clinics by sex

MALES					FEMALES			
	FLORIANA 1976	FLORIANA 1977	CITY	COUNTRY	FLORIANA 1976	FLORIANA 1977	CITY	COUNTRY
1	Respiratory 36%	Respiratory 34%	Respiratory 22%	Respiratory 22%	Respiratory 25%	Respiratory 19%	Respiratory 18%	Respiratory 25%
2	CNS 18%	CNS 17%	Digestion 11%	Prophylaxis 13%	Prophylaxis 12%	Prophylaxis 18%	Prophylaxis 17%	Prophylaxis 12%
3	Communicable Diseases 7%	Prophylaxis 12%	CNS 10%	CNS 11%	Genito- Urinary 10%	CNS 17%	Pregnancy 8.7%	CNS 12%
4	Digestion 6.5%	Skin 8.1%	Skin 10%	Skin 9.5%	Mental/ Personality 10%	Genito- Urinary 15%	CNS 8.3%	Communicable Diseases 8.2%
5	Prophylaxis 6%	Genito- Urinary 7.1%	Prophylaxis 9%	Bones 8.4%	CNS 9%	Skin 7.5%	Genito- Urinary 8.2%	Genito- Urinary 8.0%
6	Allergy 5.8%	Communicable Diseases 5.7%	Bones 8.9%	Communicable Diseases 7.7%	Pregnancy 7.2%	Mental/ Personality 7.0%	Skin/Conn- ective Tissue 6.3%	Skin/Conn- ective Tissue 6.6%
7	Skin 5.6%	Trauma 4.2%	Trauma 8.1%	Trauma 6.4%	Skin/CT 4.9%	Pregnancy 3.6%	Bones/Joints 5.8%	Bones/Joints 5.4%
8	Trauma 5.2%	Symptoms 4.2%	Communicable Diseases 5.6%	Digestion 5.5%	Digestion 4.6%	Communicable Diseases 2.9%	Digestion 5.6%	Trauma 5.0%
9	Mental Personality 4%	Allergy 2.7%	Mental Personality 5.0%	Circulatory 4.8%	Communicable Diseases 4.2%	Bones/Joints 2.8%	Mental/ Personality 5.6%	Mental/ Personality 4.0%
10	Genito- Urinary 3%	Digestion 2.1%	Circulatory 3.6%	Genito- Urinary 3.0%	Allergy 4.1%	Trauma 2.0%	Communicable Diseases 5.0%	Pregnancy 3.0%
Total No. of Attendances	444	334	357	440	1306	936	670	497

pregnancy.

The increased annual patient attendance rate was probably due to the younger age and the extended family unit situation together with a more frequent change of patients. The practice at *JSFC Floriana* changed almost completely every two to three years. It would be interesting to know if the above attendance rate increase is confirmed from other overseas practices. If so, this should be considered in the complementing of these practices. Other factors might have been review rates (which vary with individual medical officers) and where the clinic was situated in relation to the patients' living areas. These are not considered significant in Malta as at the time the

figures were taken the majority of the medical officers were experienced practitioners. The clinic was situated so that all bus routes went past but was not in the proximity of any large married quarter complex. There was a NAAFI nearby but again it was far enough away to discourage people from "popping in whilst shopping".

The withdrawal does not seem to have caused a great deal more work in respect of patient attendances although those for prophylaxis were markedly increased. The impression gained by most of us was that, as the withdrawal progressed, more cases of anxiety presented but this is not reflected in the figures. Perhaps the chronic weekly attendances had been the first to return

home. The reasons for the other increases in April 1977 as compared to 1976 are not clear.

It is acknowledged that such figures may be affected by many factors such as climate, or husbands being on temporary deployments. However, such impressions may help in self audit. The general practitioner is the main filter and generally the first to see the patient. He is also the first, possibly, to make mistakes. In a closed environment where everyone knows and tends to compare one another, this may lead to greater problems than in a civilian practice, especially if there

is not a good relationship between primary and secondary care teams. This good relationship is a fundamental necessity of good medicine wherever practised and happily was so in Malta for everyone was a naval medical officer whatever his specialty.

Acknowledgements

I am most grateful to Update Publications for the United Kingdom practice figures used for comparison. I also wish to thank my colleagues at JSFC Floriana who helped collect and classify the figures for Malta.

PUBLICATIONS BY RN MEDICAL OFFICERS — ABSTRACTS

VOROSMARTI, J., Jr., BARNARD, E.E.P., WILLIAMS, J. and HANSON, R. de G. (1978) Nitrogen elimination during steady-state hyperbaric exposures. *Undersea Biomedical Research*, **5** (3), 243-252.

Nitrogen elimination was measured in six divers during steady-state exposures in an oxygen-nitrogen atmosphere at 1, 2 and 3 ATA using both oxy-helium and pure O₂ as washout gases. This was accomplished by using mass spectrometry to measure the expired N₂ concentration breath-by-breath over periods of 120 min in all experimental conditions except for O₂ breathing at 3 ATA, which was limited to 30-min periods. In all cases the area under the elimination curve increased with pressure. Total area under the curve was also greater when breathing O₂ than when breathing oxy-helium, but this difference decreased with depth and washout time. Nitrogen elimination on a semilogarithmic plot falls rapidly during the first four

minutes and then shows a slow linear fall for the remainder of the measurement period. Effective elimination of nitrogen decreased with depth and oxygen was more effective than oxy-helium in washing out nitrogen at all depths studied. Possible causes of the different variations noted in the washout curves during the experiment are discussed.

HANSON, R. de G. (1978) Working in cold environments — lessons to be learned from diving. *Annals of Occupational Hygiene*, **21**, 193-198.

The lessons which have been learned from deep diving in cold water are: the importance of heat loss through the respiratory tract; the importance of being able to maintain the living quarters within narrow limits of temperature; the unsuitability of wet suits as insulation for all but the shallowest dives; and the importance of heating the diving bell.

The Editor would be glad to receive abstracts of any papers by RN medical and dental officers appearing in other professional journals.

Transient Ischaemic Colitis — Colonoscopy and Biopsy in Diagnosis

R.H. Hunt and J.D. Buchanan

Introduction

Colonoscopy has established its place in the diagnosis of barium enema negative rectal bleeding (Swarbrick *et al.*, 1976; Waye, 1976; Hunt, 1978; Teague *et al.*, 1978) and has become increasingly widely accepted as useful in patients with acute per anal haemorrhage (Deyhle *et al.*, 1974; Rossini, 1978). There are few reports of the endoscopic appearances of transient ischaemic colitis (McNeill *et al.*, 1974; Farinon, 1978). The following case report clearly documents the endoscopic changes observed and the related histopathological changes and emphasises the importance of colonoscopy and biopsy in diagnosis.

Case Report

A 55-year-old woman, who was mildly hypertensive and controlled by methyl dopa and chlorthalidone, presented with painless rectal bleeding. Sigmoidoscopy showed fresh blood coming from above the 20 cm level and a normal mucosa to that point. Haemoglobin 15.4 g/dcl. White cell count $11.8 \times 10^9/c$. Plentiful platelets. ESR 24. Initially the serum K^+ was 2.0 mmol/L. ECG was normal. Liver function tests were normal. A mid stream urine specimen showed a coliform infection.

Emergency colonoscopy with the Olympus CFMB3 was performed as far as the mid transverse colon. The mucosa in the upper descending colon and at the splenic flexure was initially pale with petechiae (fig 1) and then showed superficial ulceration with a yellowish exudate (fig 2). On deeper intuba-



Fig 1. Pale mucosa with petechiae in upper descending colon.



Fig 2. Shallow, superficial, serpiginous ulceration with yellowish exudate.

tion, the mucosa was severely oedematous with pseudo polyposis and mucosal ulceration and areas of fresh haemorrhage could be seen (fig 3).

The endoscopic appearances were similar to severe chronic inflammatory bowel disease and most like Crohn's disease, but ulceration was clearly acute and superficial, and the pseudo polyps were soft and haemorrhagic, with yellow greyish pseudo membranes over the congested mucosa. Multiple biopsies were taken.

Histological examination showed areas of "structured" mucosal necrosis, congested and oedematous submucosa with sludging of red cells in small vessels. No muscularis propria was present in the biopsies (figs 5 and 6). This histology confirmed the diagnosis of a segmental ischaemic colitis.

Double contrast barium enema showed minimal irregularity of the mucosal pattern at the splenic flexure and in the proximal descending colon with apparent shallow ulceration. No other evidence of mucosal or inflammatory bowel disease was seen and no other abnormality was noted.

Management of the patient was supportive, with replacement of fluids and correction of the serum K^+ .

At repeat colonoscopy 24 days later using the Olympus CFLB3, the colonoscope was passed easily to the caecum. The mucosa within the region previously affected remained abnormal with a generalised loss of vascular pattern. The taenia coli were more prominent suggesting thinning of the bowel wall (fig 4). The mucosa was oedematous from the mid-sigmoid to mid-transverse colon with residual areas of inflamed mucosa in the splenic flexure. Biopsies were again taken.

Histological examination of these specimens showed almost complete regeneration of mucosa with only mild residual irregularities in crypt architecture (fig 7). The presence of numerous haemosiderin laden macrophages in the submucosa marked the site of a previous ischaemic process (fig 8).



Fig 3. Soft, haemorrhagic pseudo polyps with greyish pseudo membranous mucosa.



Fig 4. Recovery phase with loss of vascular pattern and prominent taenia coli.

Discussion

There are few reports of the endoscopic appearances of ischaemic colitis in the literature and the first report (McNeill *et al.*, 1974) concerned a case where ischaemia of the colon was suspected as a complication of the clinical situation.

Although infarction of the colon is more typically reversible it commonly presents with abdominal pain (Marston *et al.*, 1966). Painless episodes of ischaemia affecting the

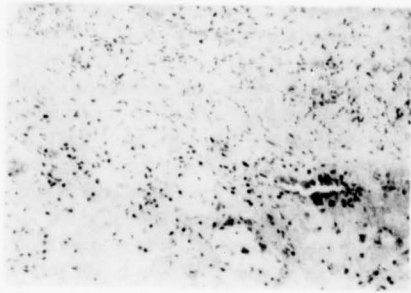


Fig 5. "Structured" mucosal necrosis with ghost outlines of infarcted crypts (H&E $\times 100$).

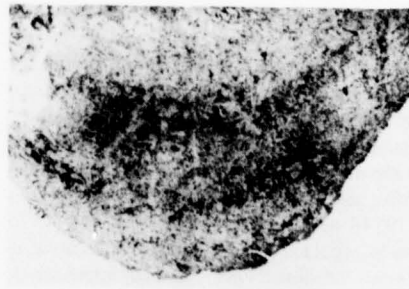


Fig 6. Total mucosal infarction with intense congestion of the submucosa (H&E $\times 25$).

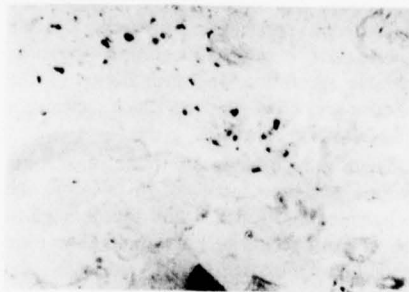


Fig 7. Haemosiderin laden macrophages in the submucosa of the healed lesion (Perls $\times 100$).

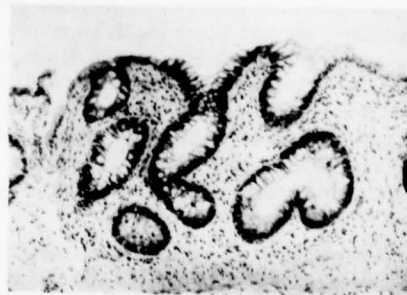


Fig 8. Persistent irregularity of crypt architecture in the healed lesion (H&E $\times 160$).

colon probably often go undiagnosed, despite overt rectal bleeding. This case illustrates the severity of the mucosal lesion as observed endoscopically and histologically in a patient who presented with transient ischaemic colitis, and painless rectal bleeding. The barium enema showed none of the typical features of ischaemic colitis (Marshak and Lindner, 1968) and colonoscopy and biopsy provided valuable additional information in seeking a diagnosis. Emergency colonoscopy has previously been considered an unsuitable investigation in patients with acute colonic haemorrhage (Hedberg, 1974; Sivak, Sullivan and Rankin, 1974) but Deyhle *et al* (1974) and more recently Rossini (1978) have reported encouraging results in acute rectal bleeding. This changed approach to colonoscopic technique has made diagnosis more accurate.

The earliest lesion of transient ischaemic colitis appears endoscopically as a pale mucosa with haemorrhagic spots (fig 1). As the colonoscope intubates the ischaemic segment there is serpiginous superficial ulceration such as is often seen in Crohn's disease but without the chronic inflammation and rigid oedematous mucosa (fig 2). Within the ischaemic segment where the lesion is most severe pseudo polyps are seen (fig 3) which are usually located to the mesenteric wall of the colon. These are grey in colour, soft and friable and ooze on biopsy. This greyish colour of the mucous membranes is in contrast to the greenish colour seen in patients with pseudo membranous colitis.

The pathology of experimental ischaemic necrosis has been well described (Whitehead, 1972; Alschibaja and Morson, 1977) and this report of the histological appearances from colonoscopic biopsies of transient segmental ischaemia correlates well. In the early phase there is necrosis of the superficial epithelium and the superficial capillaries dilate releasing blood into the interstitium and bowel lumen, while intact vessels adopt a ballooned appearance with "sludging" of red

cells. The inner dead area takes on a ghost-like appearance, the so-called "structured necrosis". After 48 hours the dead area begins to slough and repair takes place by epithelial regeneration from residual crypts and from the edges of denuded areas over granulation tissue, which replaces the ischaemic zone. Haemosiderin laden macrophages often persist at the site of granulation tissue (fig 6). It has been stated that where the mucosa is extensively destroyed it does not re-epithelialise and therefore it would seem that some viable cells must have survived in the bases of the crypts in spite of the appearances of total mucosal necrosis (fig 5). If the muscularis mucosae is effaced it is also permanently lost and in this case this had not occurred since it is well seen in the second series of biopsies (fig 7).

In the acute phase the endoscopic appearances are similar to Crohn's disease and the histological appearances of the healing lesion may be confused with features of Crohn's disease, especially where the muscularis mucosae has been destroyed and there is extensive fibrosis and residual chronic inflammation in the submucosa.

During the process of repair the macroscopic appearances are very variable but include residual congestion, oedema, variable ulceration and granularity of the mucosa and often scarring which can give a cobblestone appearance.

There may be stenosis if the muscularis propria has been involved. In this case the ischaemia was transient and the damage to the mucosa seems to have undergone total resolution microscopically although the endoscopic appearances of prominent taenia coli suggest that there was some thinning of the colonic wall.

The diagnosis of transient ischaemic colitis may be difficult and colonoscopy proved a valuable aid to diagnosis in this patient. Emergency colonoscopy should be considered in all patients with sudden onset of painless rectal bleeding.

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PATHOLOGY IN THE ROYAL NAVY

A symposium for Service clinicians will be held on July 3, 1979 at Royal Naval Hospital, Haslar. Papers of general interest will be presented and a detailed programme will be available later. All medical officers are invited to attend. In order to arrange adequate catering facilities, officers wishing to attend should notify Surgeon Commander W. Whitrow at RNH Haslar (ext. 41343).

Shrapnel Injuries in Children

A.H. Osborne

ABSTRACT

The case reports of shrapnel injuries to nine children are presented. The principles underlying treatment are discussed and the literature is reviewed.

Introduction

Nine children were involved in two separate incidents. They were treated by a Tri Service Field Surgical Team (FST) during a 4½ month period in Oman, where Her Majesty's Government were providing medical assistance to the Sultan.

In the first incident four children between 7 and 14 years tried to prise off the fins from an unexploded 60 mm mortar bomb. In the second, five children between 5 and 7 years tried to dismantle a rocket propelled grenade.

Evacuation and Resuscitation

All nine casualties were medivaced by helicopter to the FST within 45 minutes of injury. Shell dressings had been applied at the scene of the explosions. They were given adequate resuscitation in the FST before undertaking any surgical procedures. We were fortunate in having a panel of blood donors prepared to give blood at one hour's notice, and casualties like these often received fresh blood within one hour of arrival.

Case Reports

Case 1. A ten year old girl sustained 31 shrapnel soft tissue wounds, none more than 3 square cm in area, to her head, body, arms and legs. The right acromio clavicular joint was disrupted. No vital structures were involved. All wounds were superficial and were treated with initial toilet, debridement of skin

edges and delayed primary suture at five days.

Case 2. An eight year old boy presented with 14 shrapnel wounds to his body and a deep wound to his right abdomen with guarding. He also had a compound comminuted fracture of the mid shaft of the right tibia with skin loss of 12 × 10 cm over the fracture. There was also a more severe open comminuted fracture of the left tibia with complete loss of the anterior surface of the upper third (fig 1). Skin loss extended 20 × 12 cm over the front of the tibia and 10 × 7 cm over the popliteal fossa with exposure of the popliteal vessels. Peripheral pulses and nerves were intact. Laparotomy revealed blood-stained fluid and a mesenteric tear which was repaired. The right leg was skin grafted five days later and plaster applied. After one month there was a 100 per cent graft take and the fracture had united. Little bone of the upper third of the left tibia,



Fig 1 Shrapnel injuries to both legs in Case 2.

beneath the plateau, remained after initial wound excision. Phemister bone grafts and fascia lata were used to fill the defect. The anterior wound was covered with split skin taken from the left thigh. Stabilization of the tibia was obtained by two horizontal "K" wires inserted across undamaged bone with an external fixation device to prevent shortening (fig 2). Eight days later an *E. Coli*

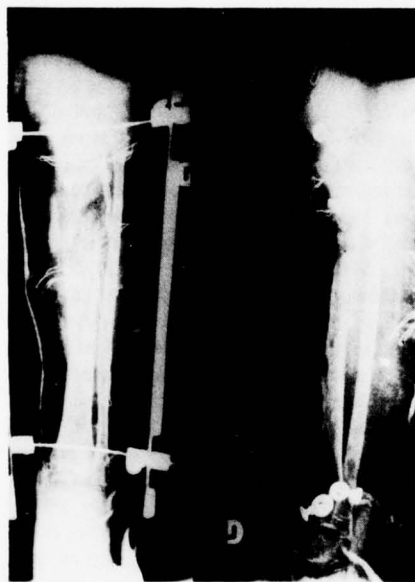


Fig 2 Comminuted compound fracture of left lower limb with external fixation device in Case 2.

infection developed involving 35 per cent of the skin graft of the left leg. Intravenous gentamycin (no serum assays were available) prevented further spread but failed to control the infection. The patient was transferred to England where the infection was eradicated and skin grafting completed. Fortunately bony union continued uneventfully and he was able to full weight bear at six months.

Case 3. A seven year old boy was admitted with a traumatic amputation of his left hand, partial severance of his right thumb, and

burns to his right wrist. A further 15 shrapnel wounds involved both legs and both arms, the right side of the chest and skull. Formal amputation through the left radiocarpal joint was performed on admission. Routine wound excision was performed to all other wounds. Delayed primary suture was carried out at five days together with amputation through the right first metacarpo-phalangeal joint where dry gangrene had developed. Examination at this time showed a full thickness burn on the right forearm measuring 7×3 cm. This was successfully excised and grafted with skin from the left thigh.

Aqueous fluid was leaking from the right eye due to a small fragment which had lodged in the iris; suture of the cornea and excision of a portion of the iris was performed.

Case 4. An eight year old boy was admitted with 13 shrapnel wounds to the chest, both legs and left forearm. A small shrapnel injury to the dorsum of his left wrist had resulted in complete tears of the extensor tendons of the ring and middle fingers. Primary tendon repair with primary excision of injured tissue was carried out. Routine wound excision was performed on the remainder of the shrapnel injuries with delayed primary suture five days later.

Case 5. A five year old child had sustained "blast eyes" and two small lacerations to the forehead due to shrapnel splinters.

Case 6. A seven year old boy had two shrapnel injuries to his right chest, with superficial burns and shrapnel injury to his right hand. The distal interphalangeal joint of the right middle finger had been exposed with a comminuted fracture of the distal end of the middle phalanx. The bone was necrotic and cloth debris were embedded. Skin loss was present over the third interosseous space extending over the head to the fourth metacarpal. The extensor tendon to the ring finger was splayed over 1 cm. A fracture of the proximal phalanx of the ring finger was also present with embedded shrapnel.

Superficial burns covered the extensor surface of the middle, ring and little fingers. A deep laceration of the terminal segment of the ring finger was also present. Shrapnel injuries to the right chest were treated routinely. Amputation proximal to the distal interphalangeal joint of the right ring finger was carried out. Viable skin flaps were used to cover the adjoining defects. A small fragment was removed from the anterior compartment of the right eye.

Case 7. A six year old boy had sustained superficial burns of his left arm and face. These were treated conservatively.

Case 8. A 14 year old boy had severe facial and skull injuries with traumatic amputation of both arms at mid-forearm level. He was dead on arrival.

Case 9. A 10 year old boy had severe abdominal injuries and partial amputation through the right thigh. He was dead on arrival.

Initial Toilet and Debridement

Case 1 illustrates the multiple shrapnel injury where no vital structures are involved and no fractures have occurred. The wounds were contaminated with sand and clothing on arrival. Initial treatment consisted of thorough toilet with 10 per cent hydrogen peroxide solution in water, followed by debridement and removal of all dead tissue. Shrapnel was removed if found at operation but otherwise left *in situ*. Each wound was lightly packed with dry gauze swabs which controlled any superficial oozing. Swabs were held in place by crepe bandages. No attempt was made to use cream or powder antibiotics locally. Parafin gauze or tulle gras were not applied as this made delayed primary suture more difficult. Their usefulness is questionable provided a thorough debridement is carried out.

Case 6 demonstrates the problem of shrapnel injury to the hand. Thorough debridement would have involved the digital vessels, nerves and flexor/extensor tendons, thereby destroying any function. Initial wound exci-

sion was therefore technically inadequate and at five days amputation of part of two digits was performed to give a functioning hand and avoid resultant stiff useless fingers. However, most of the viable skin distal to the amputation was used to replace adjoining defects which would otherwise have necessitated full thickness skin grafts being applied from elsewhere.

Delayed Primary Suture

Delayed primary suture (DPS) was performed at five days. This was first carried out in 1854 by George Mackay, the Surgeon in *HMS Agamemnon* at Sebastopol during the Crimean War. This principle tends to be forgotten at the start of each conflict, only to be learnt from practical experience later. It can be applied with good effect to road traffic accidents and other injuries in civilian life. Skin cover in *Case 1* was obtained without resource to grafting. The mobilisation of flaps becomes increasingly difficult after seven days, when the skin edges have to be re-excised (Watt, 1976). Wounds were thoroughly cleansed with 3 per cent hexachlorophane solution and skin edges mobilised by undermining for 6 to 8 cm. The judicious use of local transposed flaps and Z-plasty covered the remainder. 4/0 silk or nylon were used and left *in situ* for a minimum of 14 days. Deep sutures were avoided. It was found that many particles of shrapnel worked their way to the surface between the initial debridement and DPS. They tended to come away with the original packing swabs.

Abdominal Injuries

Adequate exploratory laparotomy is essential, usually through a long mid-line or paramedian incision. Only a minor mesenteric tear was found in *Case 2* and easily sutured.

Treatment of abdominal shrapnel injuries during the October 1973 Arab-Israeli war is admirably summarised by Pfeffermann *et al* (1976). Stomach tears were sutured in two

layers after wide excision of wound edges. Duodenal tears were sutured transversely and in one instance by passed by a gastrojejunostomy. Single perforations of the small intestine were sutured, while segments were resected in two layers when multiple perforations or extensive mesenteric tears compromised the vascular supply. Injured large intestine was exteriorized as a loop colostomy, although in UK a double barrelled colostomy with excision of the affected segment is often preferred. In very low sigmoid or rectal injuries the perforations were closed and a diverting colostomy added.

Splenectomy was performed for all injured spleens. Small tears of the liver were sutured although larger ones required excision of devitalised tissue with ligation of large vessels and bile ducts. Partial nephrectomy was attempted for renal lesions but ultimately all injured kidneys had to be removed. Bladder lacerations were repaired and the ureters anastomosed primarily over ureteric catheters.

Skin Grafting

Fortunately in *Case 2* the right lower leg had a stable tibial fracture which was treated by a long leg backslab. Wide excision of skin down to the bone was performed. Split skin grafting was carried out on a clear granulating wound at five days using the right thigh as the donor area with a 100 per cent take.

The left leg was more extensively damaged (fig 2). The tibial comminuted fracture was controlled by external fixation with two Kirschner wires passed through uninjured skin with a home-made external metal device to control rotation. Skin grafting at 10 days was only 65 per cent successful due to *E. Coli* infection. Pollack and Parkes (1969) recorded over 100 cases of war wounds suffered in Vietnam which were treated by open skin grafting and returned to the United States. These arrived between 5 and 20 days after injury, having had successful initial

debridement and excision performed in Vietnam. Between 95 and 100 per cent take of graft was achieved in all patients save one. Mesh grafting was not applied here because of inferior cosmetic and functional results. Postage stamp grafting was rejected for the same reason, but exposed bone, tendon, nerve or artery were covered by skin flaps without preliminary skin grafting. However, mesh grafting was used extensively in Vietnam where skin was in short supply and where extensive burns had occurred. Salisbury (1971) reported an 85 per cent take in 130 cases. A mesh graft can cover three times the surface of a non-mesh graft and was particularly useful in short amputation stumps.

Vascular Injuries

The left popliteal vessels were exposed in *Case 2* but examination showed them to be undamaged although devoid of any cover. Muscle cover was obtained by transposition.

Arterial surgery is now common in war situations. A direct anastomosis, the injured vessel being divided serially until the artery is grossly normal, is preferable to reverse long saphenous vein grafting (Boyd, 1975). A suitable vein graft may be hard to find and rarely should a graft be taken from an injured limb. Alternatives such as patch grafting and fabricating a sizeable vein from two thin strips should be considered (Livingstone and Wilson, 1975). A higher failure rate existed in Vietnam when grafting was used as an alternative to direct arterial anastomosis. A disadvantage is that the graft has to be covered by adjacent muscles, while the remainder of the wound is left open for subsequent delayed primary suture (Third Conference on War Surgery, 1969).

Blast Lung

Only one child sustained mild symptoms of blast lung. Damage was only transient with pulmonary oedema at 48 hours; the symptoms were mild dyspnoea and moist crepitations in both lungs, which resolved with physiotherapy.

Blast injuries usually occur when people are close to an explosion, especially in confined spaces, and not in open desert as in our series. Diffuse interstitial pulmonary oedema is apparent at 48 hours when symptoms develop. Blood gas analysis shows carbon dioxide retention and increasing hypoxaemia.

Treatment consists of assisted ventilation with a positive end-expiratory pressure (PEEP) and high inspiratory concentrations of oxygen, diuretics and steroids (Gray and Coppel, 1975).

Fasciotomy

This was performed on the lower left leg in Case 2 to avoid post-operative oedema and muscle infarction. The anterior tibial compartment should be decompressed in all cases seen after a delay of several hours. When muscles above the knee are severely damaged, both the anterior and posterior compartments should be decompressed. If one of the tibial compartments is severely damaged by a gun shot wound, the other compartment should be decompressed by fasciotomy (Livingstone and Wilson, 1975).

Amputations

Formal disarticulation of the left hand was performed in Case 3 at the radio-carpal joint. This was the most distal site possible with viable skin flaps using distal intact skin. A dry gauze swab was placed across the distal wound and the flaps sutured over it, leaving the ends free for drainage. This swab was removed at five days and the suturing completed. The wound was fully healed ten days after the incident. Many "optimum" levels for amputation have been described but the aim initially should be to preserve as much as possible as any more definite procedure can be carried out later. Similarly, amputation through the right first metacarpo-phalangeal joint for dry gangrene was an attempt to preserve as much as possible. The factors of general body and stump growth are significant in children. Thus disarticulation should be performed rather than an amputation through the shaft of a long bone.

Disarticulation preserves the epiphysis distally and therefore stump growth continues at a normal rate. Disarticulation also prevents terminal overgrowth of the bone. This overgrowth of a sectional long bone is caused by the apposition of new bone and is not related to growth of the epiphysis at the proximal end of the free bone.

A mid thigh amputation in a child of five years can result in a short stump at 14 years because distal femoral epiphyseal growth is eliminated. Conversely a short below knee stump may be satisfactory at 14 years because of continued proximal tibial epiphyseal growth (Tooms, 1971).

External Fixation Devices

In Case 2 a home-made external fixation device was used not to give compression but to stabilise the grossly comminuted fracture and to give some distraction and prevent shortening. Internal fixation in the presence of such skin loss was not indicated, but stabilisation of the limb was necessary.

Extensive comminuted fracture, skin loss and vascular repair are all indications for external fixation. There is no contra-indication to internal manipulation at the time of external fixation to prevent muscle interposition and align small bone fragments. This makes subsequent skin grafting easier, permits rigid fixation, early movement and avoids "fracture disease" (Ronen, Michaelson and Waisbrod, 1978). Most of these external fixation devices are expensive and sophisticated instruments are required to apply them, thus making them unsuitable for use by a Field Surgical Team. However, an exception to this is the Denham External Fixation Compression device which has the advantage of being inexpensive and easy to apply. The pins do not have to be inserted parallel to one another and the position held by a mixed double dose of acrylic cement applied to the carriages on the bar.

Ear and Eye Injuries

Four of these children sustained a total of

six drum perforations. Treatment consisted of aural toilet and a daily wick impregnated with a topical antibiotic. All healed spontaneously.

Part of the ruptured tympanic membrane may be driven into the middle ear, spontaneous closure of the drum may occur, leaving the remnant as nidus for a potential cholesteatoma (Kerr and Byrne, 1975). Two eye perforations (Cases 3 and 6) were sustained. These may be easily missed in the presence of other severe injuries.

All children had "blast eye" with varying degrees of severity. There was excessive lacrimation with blepharitis. Conjunctival oedema affected both eyeballs and eyelid. All responded to rest, antibiotic and hydrocortisone drops over a five day period.

Closed Primary Suture

Case 4 illustrates the principle of primary suture with complete excision of injured tissue. Wound edges of the dorsal aspect of the wrist were completely excised and the two cut extensor tendons primarily repaired with nylon. The repair was protected by a "cock-up" splint. This healed by primary intention. The splint was removed at three weeks and at five weeks the child had a fully mobile wrist with functioning extensor tendons.

Latta (1951) reported that early in the Korean war primary wound closure with inadequate debridement, relying on penicillin to prevent infection, was the cause of further surgical treatment being required in 12 per cent of cases received in the Royal Naval Hospital Ship *Maine*. Hence primary suture should only be carried out after thorough debridement and is not without risk. Conversely, Case 5 involved minor lacerations to the forehead and primary suture was adequate.

Conclusion

Children tolerate plastic surgical proce-

dures following severe trauma, such as the rotation of skin flaps, surprisingly well, which is probably due to growth factors and increased body metabolism. The phantom limb syndrome rarely develops in children and neuromas rarely require surgery. Certainly, children under our care healed more rapidly and adapted to amputation more readily than their adult counterparts.

It is felt that these case reports bring out practicable, important points in the treatment of all casualties involving children. These incidents occurred in the aftermath of a guerilla insurrection, now over, in which the debris of war remain. The natural inquisitiveness of children is bound to result in such injuries under similar circumstances elsewhere.

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Case Report of a Difficult Clinical Diagnosis

A.D. Snell

ABSTRACT

Dissecting aneurisms are known to be able to reproduce ischaemic heart pain. A case is reported of haemorrhage into the superior mediastinum producing typical myocardial infarction pain and a picture of peritonitis.

History and Findings

The patient, a 43 year old farm worker, presented in the casualty department complaining of a severe crushing central chest pain radiating to his left arm, with marked sweating. This had occurred at rest and lasted several minutes. One week earlier he had developed identical chest pain whilst lifting hay bales. This had lasted ten minutes and there was no nausea, vomiting or sweating. Three days later he had similar pain whilst at rest, radiating to his back and neck, lasting half an hour.

One and a half hours after the onset of his chest pain on the day of admission he developed colicky lower abdominal pain.

His previous illnesses included a spontaneous pneumothorax two years previously and epigastric discomfort intermittently for two years, occurring before and after food and relieved by "Rennies".

On examination the patient was shocked with a weak pulse of 60/minute in sinus rhythm, blood pressure 70/?, heart sounds normal with a clear chest. He was tender with guarding in his lower abdomen. There was no rebound and normal bowel sounds were present. The rectum was full of hard faeces. Femoral pulses were present and equal.

Results of laboratory investigations were:

plasma sodium 136 mmol/l; potassium 3.9 mmol/l; chloride 104 mmol/l; urea 6.6 mmol/l; amylase 150 units/100 ml; haemoglobin 14.9 g/dl; white cell count 23.0 (neutrophils 76%, lymphocytes 23%). The ECG was in sinus rhythm at 60 beats/minute with inverted "T" waves in AVL. The chest X-ray (fig 1) showed a rotated film but despite this there was a definite fullness in the left side of the superior mediastinum. The left hemidiaphragm was raised and there was a gas shadow suspicious of a hiatus hernia or an emphysematous bulla. The abdominal

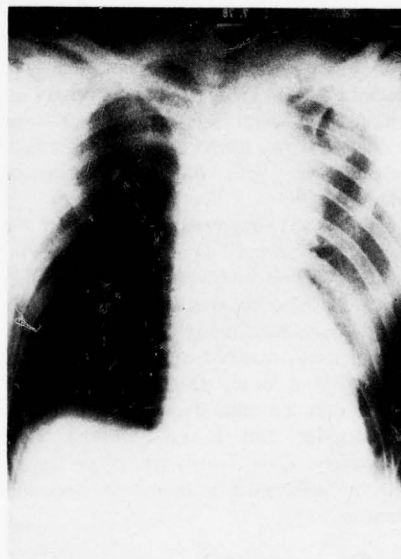


Fig 1.

films were normal apart from showing a lot of faeces in the colon (figs 2a & b).

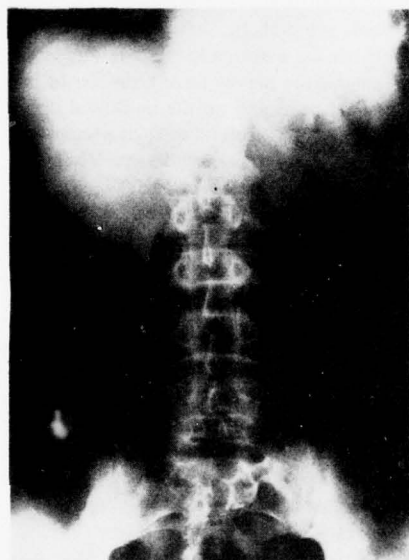


Fig 2a.

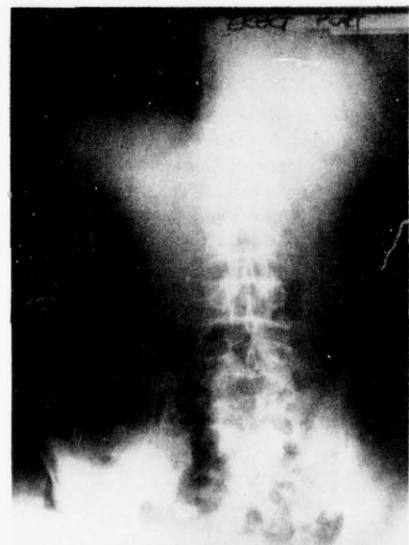


Fig 2b.

A provisional diagnosis of myocardial infarction with peritoneal inflammation, possibly due to bowel infarction or a perforated duodenal ulcer, was made. The clinical picture did not fit either of these last two diagnoses well. A dissecting aortic aneurism was discounted. A Ryle's tube was passed and an intravenous infusion of dextrose started.

Over the next few hours the patient's condition deteriorated, his blood pressure dropped to 52/55, pulse 90/minute, and he started vomiting coffee grounds. He exhibited tenderness, guarding and rebound in his lower abdomen with very scanty bowel sounds.

Having taken into consideration his possible myocardial infarction, a laparotomy was performed. No free fluid was found and all the abdominal contents were normal. He recovered from anaesthesia satisfactorily and regained consciousness, his blood pressure being 110/70, ECG in sinus rhythm. Whilst still on the operating table he suddenly became breathless and complained of severe chest pain. He collapsed in asystole and did not respond to resuscitation.

Post mortem findings were a massive left-sided haemothorax consisting of several pints of both clotted and fluid blood resulting in collapsed left and right lungs. The lungs showed evidence of chronic bronchitis and emphysema. There were a few bullae, some quite large, in the apices of both lungs along the interlobar fissures and at the bases. There was a massive amount of recent blood clot attached to the pericardium, particularly where it invested the left side of the heart. Amongst this blood clot there was a pale yellowish tissue which looked like tumour tissue. The haemothorax had resulted from blood clot rupturing into the pleural space. The heart, coronary vessels and aorta were all normal. Histology showed the mediastinal mass to consist of fresh blood and organising blood clot mixed in with adipose tissue. There appeared to be blood filled sacs and

islands of thymic tissue mixed in with the clot. The exact character of the mediastinal tumour was uncertain but it was considered to be either a haemangioma or hamartoma and there was no evidence of malignancy. No feeding arteries to the tumour were visible. The certified cause of death was spontaneous haemothorax due to a mediastinal tumour.

Discussion

An explanation of what may have happened is that during the week prior to death the episodes of chest pain with radiation were due to small haemorrhages into the superior mediastinal tumour (the nature of which must remain uncertain apart from the fact that areas of thymic tissue and blood-filled spaces were intermixed). The episode just prior to admission must have been a fairly large one resulting in the patient's shocked state.

The ECG showed only inverted "T" waves in AVL which on its own is suggestive of ischaemia. The raised WCC of 23 is interesting. In myocardial infarction it often rises but not as high as this. There is no satisfactory explanation for this result.

In retrospect the chest X-ray showed some cardinal features, i.e. the fullness in the superior mediastinum and the raised left hemidiaphragm suggesting phrenic nerve involvement.

The colicky lower abdominal pain was probably caused by irritation of afferent sympathetic fibres from the abdominal viscera. Sympathetic fibres from the small intestine travel in the greater splanchnic nerve and synapse at T9 and 10 (possibly 11). The pain is referred to around the umbilicus.

Ascending colon pain is referred to the supra-pubic region and the pathway along the lumbar chain and aortic plexus to the thoracic sympathetic chain at levels T12 and L1. In the cat autonomic afferent impulses in the splanchnic nerves have been traced into the spinal cord and up the ipsilateral dorsal column to the ipsilateral nucleus gracilis and then across to the contralateral thalamus. More slowly running impulses go up the spinothalamic tracts to the thalamus on both sides and to the hypothalamus (Bell, Davidson and Emslie-Smith, 1972). In this case the splanchnic nerves involved with blood clot and fresh blood were probably irritated, thus causing the abdominal pain and the clinical picture of an acute abdomen. It is a form of Ogilvie's syndrome. This is a variety of paralytic ileus caused most often by carcinomatous involvement of the sympathetic ganglion around the coeliac axis. It can also occur in chest injuries and fractures.

The patient's final demise must have been due to a massive haemorrhage into his tumour. This was probably either a haemangioma or a hamartoma of congenital origin and the haemorrhages had involved the thymus, surrounding it in blood.

Acknowledgements

I would like to thank Mr K.F. Edwardson, Consultant General Surgeon, Clatterbridge Hospital, Bebington, Wirral, for permission to report this case, and Dr E. Paterson for her invaluable assistance.

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A Comparison of Two Quantitative Methods of Analysing Thyroid Dynamic Studies in Nuclear Medicine

A.S. Houston and N.R. Thorpe

ABSTRACT

Two quantitative methods of analysing thyroid dynamic studies using $^{99m}\text{Tc O}_4$ are compared for 33 patients (22 euthyroid, 8 hyperthyroid and 3 hypothyroid). A physiological model based on pertechnetate uptake by the thyroid is compared with principal components analysis. Both methods gave good separation between euthyroid and hyperthyroid in all but one case, while the separation between euthyroid and hypothyroid, although based on a small sample, appeared to be better for principal components analysis.

Introduction

The aim of this paper is to investigate the information content of thyroid dynamic studies in nuclear medicine and to decide if these are a useful adjunct to static imaging of the thyroid. In particular, two methods of analysing the activity/time curves obtained using this type of study are compared and contrasted.

One method uses a knowledge of thyroid physiology to set up a model to predict the shape of the curve while the other adopts a pattern recognition approach extracting relevant discriminating features. It is then possible to compare the distributions of the parameters given by the two methods and to decide which method is the more useful and indeed if either method provides information which is not obtainable from the static image.

In a similar study using ^{99m}Tc -colloid liver dynamic studies (Houston and Macleod, 1979) it was shown that there was little to choose between the distributions given by principal components analysis and a physiological model suggested by Miller, Diffey and Fleming (1979).

Materials and Methods

Following an intravenous injection of 2 mCi of ^{99m}Tc pertechnetate, the patient's thyroid is monitored for 1000 seconds using a Searle Pho Gamma HP camera interfaced to a Varian V76 minicomputer. Fifty frames of 20 seconds each are formed and summed to form a composite view. A region of interest is then drawn around the thyroid and an activity/time curve formed by applying this to the original 50 frames.

Thirty-three patients, referred for thyroid assessment, were examined in this way. These were classified into three categories (euthyroid, hyperthyroid, hypothyroid) based on the results obtained from clinical examination, T_4 - T_4 measurements and static and dynamic scintigraphy. The resulting breakdown showed 22 to be euthyroid, 8 to be hyperthyroid and 3 to be hypothyroid.

The activity/time curves were then analysed using two quantitative methods.

(a) Physiological model

Miller, Diffey and Fleming (1979) postulated a model which was shown to predict the uptake of chelate by the liver with a fair degree of accuracy. Assuming that the same conditions apply to the uptake of pertechnetate by the thyroid, it can be shown that the count rate due to the thyroid at time t is given by

$$T(t) = C_1 - C_1 e^{-kt}$$

where C_1 and k are constants.

It is clear that the activity in the tissue

above and below the thyroid will be included in the total uptake within the region of interest. In order to correct for this another region of interest is drawn over the carotid artery away from the thyroid and a time/activity curve formed. The blood background curve thus formed was shown in every case to have a fairly constant value after the initial vascular "spike" in the first minute after injection. The count rate within the region of interest will therefore be of the form

$$A(t) = C_0 - C_1 e^{-kt} \quad (t > 1 \text{ min})$$

where C_0 is a constant.

An iterative least squares computer programme was used to find those values of C_0 , C_1 and k which provide the best fit to the activity/time curve in each case. In order to

be certain that the initial 'spike' was ignored, the first five points were always omitted.

(b) *Principal components analysis*

The use of principal components analysis as a diagnostic aid in nuclear medicine was described in a previous paper (Houston, 1978). The technique was applied to the 33 thyroid activity/time curves which had been neither normalised nor corrected for blood background. The first two components, which contained 93 per cent of the total discriminating information, were chosen to describe differences between the curves, the information in each curve being compressed into the two corresponding coefficients.

A typical composite view and region of interest of a euthyroid patient is shown in fig 1.



Fig 1. Composite view of normal thyroid with region of interest superimposed.

The activity/time curve thus formed (A) is shown together with the principal components fit (B) and physiological model fit (C) (fig 2).

Results

The parameters obtained using both methods were compared in the following way. For the physiological model the parameter C_0 was ignored since it contained the background component. $-C_1$ was plotted against k as shown in fig 3. For one hyperthyroid patient the model gave a very poor fit and this point is omitted in this figure. The two coefficients corresponding to the first two components are plotted against each other in fig 4.

It is clear for both methods that, in all but one instance, the separation between

euthyroid and hyperthyroid patients is good. Separation between euthyroid and hypothyroid patients is more difficult to interpret due to the small number of hypothyroids. It would appear, however, that slightly better separation is obtained by the method of principal components.

It is interesting to compare the "goodness of fit" obtained by the methods. Principal components analysis gave an overall standard deviation of 1.3 times the expected statistical error while the corresponding factor for the model was 1.5 (again with one curve omitted). In both cases the first five points were again omitted for each curve.

Discussion and Conclusion

A reasonable fit was obtained using the model for all but one case of a hyperthyroid

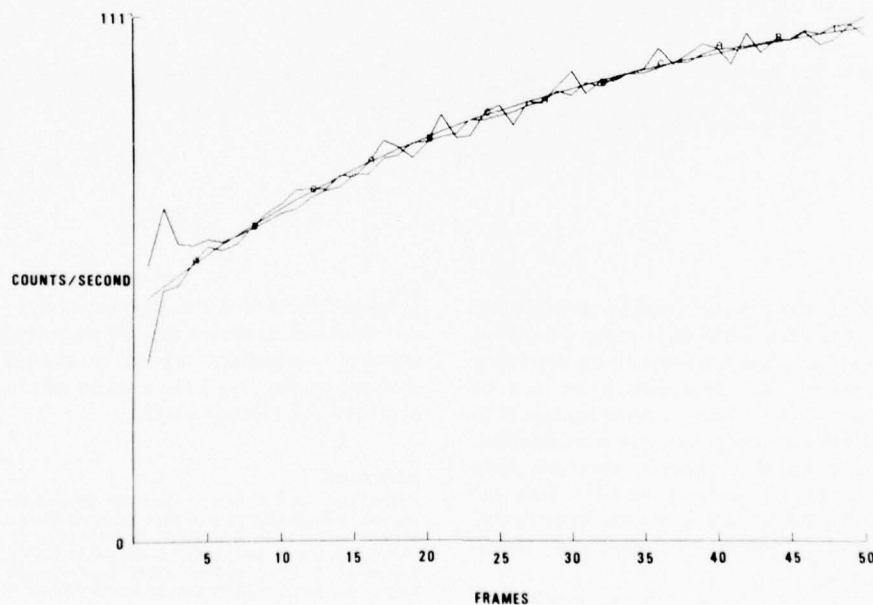


Fig 2. Activity/time curve for normal thyroid (A) with fit obtained using principal components (B) and physiological model (C).

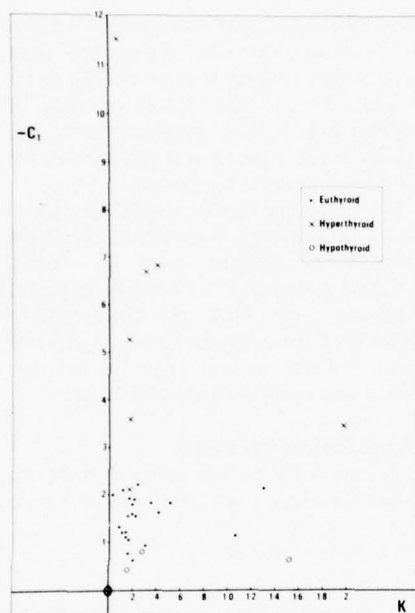


Fig 3. Plot of the relevant parameters obtained using the physiological model showing the distribution of the three clinical categories. N.B. One hyperthyroid is omitted due to breakdown of model.

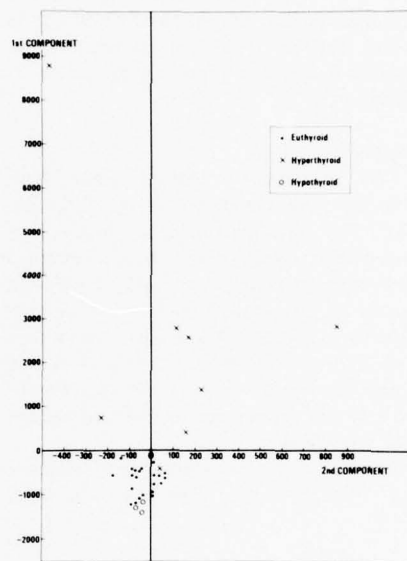


Fig 4. Plot of the coefficients obtained from the first two components showing the distribution of the three clinical categories.

patient where the time/activity curve reached a peak value fairly early in the monitoring period and then became a slowly decreasing function. The conclusion which can be drawn is that, while the model appears to be adequate in most instances, it is not infallible. The principal components approach, however, gave a good fit in every case and slightly better class separation. In particular, the three hypothyroid cases are closely grouped.

This latter point, although based on a small sample, could be important since it is sometimes difficult to differentiate between euthyroid and hypothyroid using static

imaging. Clearly further study is required but the initial indications are that the method of principal components applied to thyroid dynamic studies may have a useful role to play in thyroid function studies.

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A Personal Experience of a Naval Hunger Strike

H.E.B. Curjel

Hunger strikes involving naval personnel are not common and it is thought that this report may be of some general interest.

Shortly after the end of World War II I was serving in *HMS Roseneath*. This was a pleasant establishment on the banks of the Gareloch which had been a training and operational base for landing craft.

The skills of this particular branch of seamanship were still being taught and we often had groups of pupils from other navies. It so happened that one of these groups consisted of twenty engineers whose status and skills were roughly comparable with those of our own splendid ERA's. They were accompanied by four stokers who also acted as their messmen.

The engineers were engaged in a long drawn out dispute with their own government which was concerned with their status and pay. A position of stalemate having been reached, they decided to put pressure on their government by going on hunger strike while they were serving with us.

We felt from the first that this was very unfair and ungrateful behaviour on the part of guests towards their hosts and the Captain lost no time in telling them so in no uncertain terms. Moreover, no representatives from their Embassy came up to sort things out, so all diplomatic exchanges had to be carried out at long range. It must be said, however, that this indifference shown by the Embassy was, in a way, a splendid method of taking the wind out of the strikers' sails.

On the medical side, it was indeed an irritating and frustrating experience. I

received specific instructions from the Admiralty that on no account was forcible feeding to be undertaken, so there was nothing active which we could do. After the first few days, we began to get a spate of alleged "collapses". These generally occurred during the night watches. After panic stations in the mess-deck, the medical and nursing staff were turned out and the patient admitted to the sick quarters. But once there he resolutely refused to eat, though assuring us all that we were the kindly servants of Allah who would undoubtedly get our reward ultimately in heaven. Invariably the patient returned to the mess-deck "at his own request" next day.

Medical supervision of all the hunger-strikers consisted of clinical checking for signs of dehydration (although none of them refused to drink water) and a daily examination of the urine for ketones. Only one of them, after the first few days, showed a persistent ketosis and he was the only one about whom we were really concerned.

The ring leader was a youngish "sea-lawyer" who, in some odd way, appeared to exercise a very definite influence over the others. I formed the opinion, however, that there was a certain amount of double-crossing going on and that, for many of them, the hunger-strike was not complete.

After the first two days, no rations were served out to the mess-deck concerned. We did this because we found that the four jolly messmen were putting the uneaten food into neat parcels and selling them to our own sailors, rationing still being in existence.

In spite of all this, after even a few days the engineers did begin to look haggard and ill. A rather swarthy face, if left discreetly unshaven and with rings under the eyes, can present quite a pitiable picture, especially if the patient wishes to present such a picture in order to gain his ends.

The Captain issued orders, exhortations and appeals, but no notice was taken, nor had we any means of enforcing these orders.

Finally, after eight days of stalemate, I suggested to the Captain that, if Mahomet would not come to the mountain, we must transfer the mountain to Mahomet. He approved this plan which was put into operation forthwith.

We booked a complete third-class sleeping coach on the night train from Glasgow Central to Euston. Without any further warning we advanced on the mess-deck accompanied by all the members of the regulating staff and Royal Marines who were available at the time. Ranged round the walls of the room, they made a most impressive display of potential force. The Captain then informed the engineers that our patience had come to an end and that we were going to transfer them forthwith to an unknown destination.

There was considerable dropping of unshaven jaws at this sudden ultimatum and even the young ringleader looked disconcerted for the first time. Their gear was rapidly packed and a convoy of ambulances and other vehicles left for Glasgow. The one man with the persistent ketosis was perhaps

the only genuine stretcher case and I was beginning to be quite worried about him.

Glasgow Central Station is normally a fairly phlegmatic place but we did manage to create a bit of a stir as we carried or helped along towards the sleeping coach our twenty swarthy hunger-strikers, mostly dressed in pyjamas and rather expensive looking dressing gowns.

A Surgeon Lieutenant and one member of the sick berth staff travelled in the coach. My last personal contribution was an inspired piece of Dumb Crambo directed through the window at the ringleader, showing him being hanged in the event of the man with the ketosis dying on the way to London.

On his return the Surgeon Lieutenant told us of the final stages of the affair. The night journey went smoothly. The sick man got no worse though he still refused to take any food. The train arrived at Euston at about 0730 and on the platform was a dapper young Air Attaché from the appropriate Embassy who appeared to have no knowledge whatever about the affair.

He was soon disillusioned. The Surgeon Lieutenant told him that in the sleeping car were twenty of his fellow-countrymen on hunger-strike, wished him goodmorning and retired to "breakfast-and-clean".

We subsequently heard that the man with the ketosis was admitted to University College Hospital. I would love to have known what the Air Attaché did with the other nineteen but attempts to follow up their ultimate disposal proved fruitless.

The Sailor's Surgeon

E. Harper



It is amazing how much experience, adventure and talent some people can pack into one lifetime. Certainly James Yonge's life was never dull. He achieved much, yet somehow never became famous.

In 1647 a second son, James, was born to Dr Yonge, a Plymouth medical man. After two years at Plymouth Grammar School, James was apprenticed at the early age of 11 for a period of eight years to a Naval Surgeon, Mr Silvester Richmond, then serving in *HMS Constant Warwick*, a 31 gun ship with a company of 150. On February 16th, 1658

the child first went to sea, no doubt secretly terrified by his new surroundings.

For the first week or two James was seasick but once he had found his sea-legs he philosophically made the best of things and even made notes about his experiences. England was at war with Spain, pirates were not uncommon, so he had much to write about. He described a five hour naval battle as well as some of the ports at which they called. Boy like, food played an important part in his life; he wrote about Castlehaven, Ireland:

"Here we bought hakes of great bigness for three farthings, hens for as much, a sheep for 16 or 18 pence. The people are mostly Irish, live in cabins and go very poor in clothes".

When Cromwell died in 1658, young James described him as "a blustering tyrant" but, although a Royalist, he was kept too busy to bother much about politics.

Already experienced in naval warfare, at 13 he became the assistant to a surgeon in a 61 gun frigate. This commission proved so tough he wished he could die; among other excitements he was present when the English ships bombarded pirate headquarters during the siege of Algiers in 1661. Returning to England, James wrote:

"I, weary of so slavish an employ, got to be discharged and having my ticket and but 5/- in my pocket, set off for London".

His next employment was at Wapping as an apothecary's assistant. The knowledge he gained of medicines and dispensing was to prove very useful to him in the future.

Fortunately for James, the surgeon to whom he had been apprenticed retired after James had served five of the eight years and so he gained his release. His father, who never had much sympathy for his second son, now made James his apprentice for a further seven years, a state of affairs that caused the youth to write, "I were wearied and abandoning myself to despair." His appointment as surgeon in the *Reformation*, a small 3 gun vessel with 70 men, took him to Newfoundland. Hating the cold, James dutifully recorded his impressions of all he saw; the country, flora, fauna and customs were all noted down. Highly intelligent, he gained much medical experience and began to use his own remedies in treating ailments. He was a pioneer in the treatment of scurvy which he rightly attributed to lack of fresh fruit and vegetables.

However, in 1665 Yonge and his fellow sailors were captured by the Dutch and suffered the ignominy of being shackled to the deck before being imprisoned in a warehouse in Amsterdam. "When they opened the door I saw so many nasty and lousy prisoners and smelt such a stink and felt the heat, my heart was ready to break". After a spell in hospital with fever and following an abortive escape attempt, Yonge was eventually exchanged with a prisoner in Britain and returned to London in 1667, to grieve over the desolation caused by the Great Fire a year earlier.

Soon he was off to sea, again sailing to Newfoundland. This was his last voyage and on returning to Plymouth he thankfully became a civilian surgeon. One of his first cases ashore was so successful that it made his name. A man fell from a mast, broke his shoulder and "crakt" his skull badly. Luckily Yonge healed this patient.

Marriage followed in 1671. Shortly afterwards, with the help of influential friends, Yonge became the surgeon at the Naval Hospital, Plymouth. His salary was 5s. daily with an extra 3d. per patient for medicines supplied. In time he rose to

become Surgeon General to the Royal Navy, for which appointment he was paid 6s. 8d. for each patient with another shilling a day for victuals.

Yonge was an active man and enjoyed journeying round the countryside and to London. In 1697, on returning home, he had a smallpox outbreak on his hands. Four of his children caught the disease and his little daughter, Jenny, died. But domestic troubles were offset by advancement in his career. Treating "the pox" brought in the useful sum of £120; his research into this disease while at sea paid off handsomely ashore.

He was interested in brain surgery and wrote a book "Woundes of the braine proving curable". He found time to be Churchwarden at St. Andrew's, Plymouth, but during the Monmouth Rebellion he once more joined the armed forces as surgeon to a local regiment and had "a very severe time of it" treating spotted fever among the men. More fortunately, he also cured the Countess of Bath when she developed cholera.

Honours followed. He became Mayor of Plymouth in 1694 and seven years later a Fellow of the Royal Society. During his life, Yonge met many famous people and duly summed them up in his journal. Extracts read:

"Madam Eleanor Gwin, wife to the King, a witty woman. James, Duke of Monmouth, natural son of His Majesty by one Mrs Anne Walter, a brisk notable prince and a good warrior but no politician and illiterate. King Charles II whom God preserve."

Did he wisely make no comment on Charles in case his journal fell into the wrong hands?

By his mid-fifties he was a wealthy man with a bigger practice than he needed so, sensibly, he eased off the pressure of work, although still in demand in his profession. In 1707 he was asked to embalm the body of Sir Cloudesley Shovell, drowned when the *Association* sank off the Isles of Scilly. For

this he was paid £50, a considerable fee in those days.

Over the north door of St Andrew's, Plymouth, is a memorial to Yonge, put there after his death in 1721. His portrait, resplendent in full bottomed wig and brocade morning gown, hangs in Puslinch, the manor house built by his second son in 1720.

A successful surgeon, a hard-working citizen of Plymouth, Yonge somehow never became nationally famous. Yet few men have achieved as much as he did in his lifetime, many years of which were devoted to the health and healing of sailors. He deserved to be better known.



LETTER TO THE EDITOR

Sir,

RN medical and dental officers who took part in an attitude survey on smoking habits may be interested in some of the main findings.

During March and April 1978 all RN medical and dental officers were requested to participate in a survey investigating smoking habits and attitudes to smoking. By May 1978 nine out of every ten officers had returned questionnaires to the Clinical Research Working Party secretarial office at INM. The response to the survey, in terms of returned forms, was very high in the senior/middle ranks, but slightly more participation from the junior ranks would have been appreciated.

The study revealed that only 37 per cent of the officers smoked regularly, 24 per cent were ex-smokers, and 39 per cent were non-smokers. A smaller proportion of dental officers had "ever" smoked in comparison with medical officers with differences persisting in all ranks up to captain. Almost all ex- and current smokers had begun smoking before enlisting with the RN, and the vast majority of these officers stated they had not been influenced in their smoking habits by the availability of "Blue Liners". As few officers start smoking after RN entry, there appears to be a substantial movement towards not smoking at all with the percentage of non-smokers decreasing from about 50-60 per cent at lieutenant rank to approximately 20 per cent at commander rank and above.

Over one-half of current smokers consume tobacco in the form of cigarettes and a further one-third smoke a pipe. Three-quarters of ex-smokers were smoking cigarettes just prior to giving up smoking. Compared with ten years ago smokers

had a tendency to feel less energetic and have more dyspnoea on effort whilst ex-smokers indicated tendencies towards worrying more, being more irritable and concerned about weight gain. Giving up smoking had some benefits for some officers in terms of an improvement in general health and an increased awareness of taste and smell.

Attempts to give up smoking were usually fraught with difficulties, especially with the frequency of naval social gatherings, but fear of ill-health (mentioned by 52 per cent of ex-smokers) and a monetary saving (43 per cent of ex-smokers) were the most usual spurs to success in breaking the habit.

Apart from those places in which health is of paramount importance, non-, ex- and current smokers tended to disagree about the places in which smoking should not be allowed. The percentages of non- and ex-smokers agreeing on non-smoking areas were similar with about 45 per cent definitely against smoking in MOD(N) committee rooms (smokers — 18 per cent against), 65 per cent against it in public restaurants (smokers — 32 per cent), 70 per cent against it on public transport (smokers — 50 per cent), and 44 per cent against it in submarines (smokers — 22 per cent).

Overall this study of RN medical and dental officers supports the feeling that smoking is on the wane and confirmed smokers will not break the habit no matter how dire the warnings about its dangers. The study also suggests that in the near future smokers will find more no-smoking areas, particularly in public places.

I am, etc.,

R.J. Pethybridge

Statistician

Institute of Naval Medicine

BOOK REVIEWS

THE SURGEON'S MATE 1617, JOHN WOODALL. A complete facsimile of the 1617 edition with an introduction by John Kirkup. Pp XXIV, 348. Kingsmead Press. £8.00.

I first read a bowdlerised version of this book in a frigate in the West Indies nearly thirty years ago. Quotations from it eased many a sick bay argument and fired many a gin-chat in the wardroom. I lost the battered coverless copy at a particularly unruly party at Belem.

John Woodall (1556-1643) was Surgeon at St Bartholomew's (1616-1643) while William Harvey (1578-1657) was Physician at the hospital (1609-1643). Woodall's claim to fame is based on this book which was first published in 1617 and was widely used at sea in the 17th century. The present complete facsimile of the 1617 edition is well produced by the Kingsmead Press — indeed, despite the reproduced ancient freedom of spelling, the facsimile edition is easier to read than the original from which it has been produced. This book contains in addition some fascinating reproductions of original wood-cuts and illustrations including the title page of the 1639 edition, contemporary instruments, and an illustration of a surgeon's chest.

This is certainly the first textbook of guidance for Surgeons on long oceanic voyages at sea — published 362 years ago. It contains advice on medical and surgical emergencies and contains one of the best accounts of the complex symptomatology of scurvy ever written, including its treatment with lemon juice, and pharmacological instructions on the medicaments of those days. John Woodall's book was published at a time of upsurge in sea voyaging for discovery whose costs and dangers were increased by the limitations imposed by disease and death in the crews of those small ships. The book enjoyed widespread use by ships' captains, surgeons and their mates for many years and further editions continued to be published for some years after John Woodall's death in 1643. Regrettably much of its advice was overlooked in the 17th and early 18th centuries.

John Woodall had followed William Clowes as Surgeon at St Bartholomew's Hospital and both had had military and surgical experience at sea before appointment. Woodall was really the first medical administrator of medical practice at sea as Surgeon General of the East India Company, but while he held this appointment he remained a practising and able teacher at the hospital. He preached co-operation with colleagues at a time when Barber-surgeons were vociferous inferiors to the Physicians. He was instrumental in abandoning the current method of amputation of gangrenous parts, advocating and practising amputation through the living healthy tissue above the

line of demarcation. His patients survived while others died. His recommendations provided Surgeons at sea with an adequate chest of instruments and medicaments and his instructions guided the inexperienced. His book contains a fund of good sense including the importance of the Surgeons' psychological attitude to his shipmates, and the importance to medicine of the keeping of good clinical notes and an accurate Journal.

In the present edition an introduction by John Kirkup; a chronology of John Woodall; a list of references and bibliography; a list of the works of John Woodall; a list of recorded owners of the original 1617 edition (12) and an appendix of persons and places mentioned in the text precedes the facsimile reproduction of the 1617 edition.

The book is a fascinating and worthwhile purchase which should provide pleasure and information for years to all medical naval officers who respect the history of their profession, and particularly to Bart's men who take pleasure in the association of their hospital with the sea. It might stimulate someone to write a 20th century version — a cross between a modern Pye's surgical handicraft and guidance for medical officers at sea.

JABH

HASLAR THE ROYAL HOSPITAL. A.L. Revell. Pp 50. Gosport: The Gosport Society. £1.50.

In 50 pages Surgeon Commander Revell has condensed the history of RNH Haslar, although the first eight pages treat more with the beginning of the Naval Medical Service. This monograph provides a picture, in miniature form, of the hospital's origins, its fabric and its administration. It deals in some detail with its living inhabitants — doctors, nurses and patients. Lastly it gives an impression of the hospital's future purpose and appearance.

Well illustrated throughout, it lacks only an artist's impression of what might be.

Its bibliography, though not exhaustive, will hopefully lead other aspiring amateur historians to further useful study. It is a little surprising that John Aubrey's reference to "Gospit . . . Where the Seamer, lye" was omitted. But perhaps it was because of his other comments about the locals "the Towne is full of wanton wenches . . . and (they say) scarce 3 honest women in the Town".

To those medical officers who have done rounds in the Attics and elsewhere, and to that small band who assembled to watch the unveiling of the bicentenary commemorative plaque in 1953, this contribution will bring back many memories. To all it is highly commended.

COH

AN ATLAS OF RADIOLOGICAL ANATOMY. Jamie Weir & Peter Abrahams. Pp 288. Tunbridge Wells: Pitman Medical Publishing Co Ltd. £15.00.

A well produced atlas of radiological anatomy for the undergraduate and the student of radiology and a useful reference book for X ray departments undertaking teaching and employing non consultant radiological staff.

Incidentally, it provides a quick reference of the information available on anatomy by the various specialised radiological techniques including myelography, arteriography, venography, phlebography, lymphography, sialography, gastro intestinal radiology, uro-genital radiology, and what is listed as miscellaneous radiological techniques — computerised axial tomography, dactyoscography, arthrography, xerography, retroperitoneal insufflation, and amniography. A lot in a small compass, with no detail of the techniques.

There is a useful bibliography with suggestions for further reading and the vital reproductions of X rays and the explanatory line diagrams are well reproduced.

A useful book and good value for these expensive times.

JABH

ESSENTIALS OF RADIOLOGY. P.M. Bretland. Sevenoaks: Butterworth Group. £8.95.

This is an excellent thoughtful, experienced and expert review of the essentials of radiological interpretation and deserves study by most practitioners of medicine even if they rely on the Consultant Radiologist's interpretation and report on the diagnostic imaging investigation of their patients; and particularly if they have not received undergraduate teaching in the scope of radiology.

It is a full undergraduate text on the interpretation of plain X ray radiographs. It will not lead to mastery of the art of radiological interpretation but will form a basis for the understanding of that art; and for students of radiology will form a basis for acquiring that art in conjunction with practical teaching, practice, and supervised experience.

A good book by an experienced radiologist and an enthusiastic teacher.

JABH

YEAR BOOK OF DIAGNOSTIC RADIOLOGY 1978. Edited by Walter M. Whitehouse. Pp 400. London: YB Medical Publishers Ltd. £22.50.

There is no British equivalent of this American "annual" review which in this edition covers literature reviewed up to May 1977. The pace of advance is now rapid but the review and its grouping is useful with chapters on technical developments, angiography, neuroradiology, spine and extremities, chest, genito-urinary tract, gastro intestinal tract, paediatric radiology, and ultrasound.

It thus forms an over-view, and literature review, useful to the radiologist in fields outside his special interest and a source of reference to physicians and surgeons in search of particular information.

The technical developments are probably of most general interest in a review of the book without a detailed critique of what is included or omitted in each of the designated review fields, though the inclusions excuse the omissions.

Computed axial tomography advances, and the EMI scanner becomes faster and more definitive as its competitors produce variants on Geoffrey Housefield's brilliant innovation in the use, focus and display of the

X ray beam. Now isotope emission scanners employing axial tomography are being developed. Advances and innovations of ultrasound are well documented. It is surely time that clinical radiology is recognised for what it is — clinical diagnostic imaging.

The book is recommended to medical libraries and radiologists.

JABH

AN ATLAS OF NORMAL DEVELOPMENTAL ROENTGEN ANATOMY. Theodore E. Keats & Thomas H. Smith. Pp 801. London: YB Medical Publishers Ltd. £53.00.

This is a most unusual book in that apart from the preface there is no text or annotations. It consists of a vast compilation of illustrative radiographs which depict normal growth in the male and female from birth to 25 years. The first two years are illustrated at three monthly intervals and thereafter yearly.

In diagnostic radiology a knowledge of normal appearances is fundamental before a diagnosis of pathological conditions can be considered. To attain this for every age group could take a lifetime of radiological experience. This book attempts to provide a ready reference. Even so, the authors admit that many years of collection and searching of files still leaves omissions in some of the age groups.

The quality of the radiograph reproductions is excellent overall. The majority of the radiographs are skeletal. They represent the average appearance of each age group and do not indicate accurate maturation dates. Radiographs of other anatomical appearances, in particular those of the chest, are small and the subsequent loss of detail detracts from their value. The attempt to illustrate barium and other contrast examinations may also be questioned. There are many examples of cystograms but few demonstrate micturition.

A bold attempt has been made to provide a ready reference in a single volume. Despite some drawbacks a departmental copy would be an advantage.

FWP

ATLAS OF ROENTGENOGRAPHIC MEASUREMENTS. Lee B. Lusted & Theodore E. Keats. 4th edition. Pp 334. London: Year Book Medical Publishers Ltd. £31.00.

This compilation of radiographic measurements is a useful addition to an X ray department. It provides a ready source of information in a small compact volume and thus removes the necessity to search through larger textbooks and journals for a reference.

Some of the data given would at first sight appear to have been gathered for the sole purpose of producing a paper without reference to practical application. However, the apparent inconsequential may be of diagnostic value.

The format of paragraphs for radiographic technique, measurement and source of material is again used in this edition. Fine drawings are used to demonstrate the mode of measurement. A disadvantage of such a volume is that very good eyesight or a magnifying glass is required to read the vast amount of data presented in some of the tables and graphs.

There have been no deletions from the previous edition published six years ago. There are 50 new entries but it is disappointing that so few apply to computerised tomography or ultrasound.

FWP

Book Reviews

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A PRACTICE OF ANAESTHESIA. Wylie and Churchill Davidson. Edited by H.C. Churchill Davidson. 4th edition. Pp 1542. London: Lloyd Luke (Medical Books) Ltd. £26.00.

A new edition of "Wylie and Churchill Davidson" is always welcomed by anaesthetists, confident that the familiar format will be there, modified and updated to reflect the advances in knowledge and the changes in emphasis that have taken place in the preceding five years.

This fourth edition, like its predecessors, gives a comprehensive and readable account of British anaesthetic practice. A section is devoted to each of the main body systems and, after an excellent account of the relevant anatomy, physiology, pathology and pharmacology, a balanced review of the available anaesthetic techniques is given. Quite correctly, no effort is made to describe the techniques in minute detail. That is information one seeks elsewhere.

An indication of the general level of the book would be to say that it contains the type of information that should either be known to a consultant anaesthetist working in a general hospital or be readily available to him. That this happens to correspond to FFARCS requirements is perhaps not too surprising. Certainly the reviewer has used the book (all four editions, in fact) extensively for both everyday and examination purposes and is an unashamed devotee.

Inevitably the book will find its way into general medical libraries and once they have made its acquaintance workers in allied disciplines such as applied physiology, cardiac and respiratory medicine and intensive care will find it of considerable value.

Like any successful textbook "Wylie and Churchill Davidson" has evolved over the years. The first edition was largely the work of Wylie and Churchill Davidson themselves with some assistance from colleagues at St. Thomas's Hospital.

Subsequent editions showed an increasing use of specialist contributors and in the latest edition all but one chapter has been written by one or other of the eighteen associate editors. Dr Wylie has had to withdraw because of other duties and the overall editorial responsibility now falls solely on Dr Churchill Davidson. He is to be congratulated not only on maintaining the original style of the book but also in maintaining it at the same size and, above all, in one volume.

Although it may have added a little to the cost, the publishers were wise to continue to have the book printed on good paper and strongly bound by Hazell Watson & Viney. Previous editions have proved very robust.

The price of £26.00 for a book of 1500 pages that will last five or so years cannot be criticised by today's standards, and it is not unreasonable to compare it favourably with the current cost of attending lecture courses.

RR

PHARMACOLOGY OF THE EYE. Pauline Thomas. Pp 120. London: Lloyd Luke (Medical Books) Ltd. £3.30.

This is a small, well designed handbook which collates information on its subject not easily found elsewhere in the ophthalmic literature. Principles of pharmacology are concisely outlined in the first chapter covering absorption, transport, metabolism and excretion. A detailed chapter on drugs used in

investigation and treatment of eye disease follows, with a final chapter on the interaction of systemic and topically applied drugs and their side effects. The glossary of pharmacological and ophthalmic terms used in the book will undoubtedly widen its appeal. The author's outlook is, of course, that of a pharmacist and it is not surprising therefore to find a few minor points of procedure which are at variance with ophthalmic practice. In particular it should be noted that fluorescein strips must not be "wiped across the cornea" for obvious reasons, and that the originator of BJ6 drops is Professor Barry Jones.

AJR

DECOMPRESSION SICKNESS. Vol. 1. Brian A. Hills. Pp 322. Chichester: John Wiley & Sons Limited. £14.00.

In view of the sub-title of this book, "The Biophysical Basis of Prevention and Treatment", the would be reader might reasonably assume that it deals with the therapeutic aspects of decompression sickness. This is not the case and these considerations are left to the yet unpublished volume 2.

What this book does contain is a very detailed consideration of the factors involved in the aetiology of decompression sickness. The author is well known for his individual views on decompression theory. He represents one school of thought using mathematical modelling in an attempt to rationalise the complex, often bizarre, reaction of animal tissues to compression and decompression. That the full aetiology and pathology of decompression sickness remains a subject for debate, often heated, is a valid reason for the purchase of this book for it enables the reader to follow at least one side of the argument.

Whilst it is certainly not within the reviewer's expertise to challenge some of the theories advanced, there is sometimes a sneaking suspicion that the pathology of decompression sickness (as opposed to the physiology of safe decompression) is, on occasion, moulded to fit the theory. It must be tantalisingly irritating to those who "model" physiological processes to encounter pathological processes which introduce sufficient unknown or incalculable variables as to return mathematical modelling to an inexact and speculative process.

In the course of the final chapter the author presents his "credo" which in this case consists of eighteen tenets. These are used to support his contention that he has produced a model that allows optimisation of decompression and a quantitative prediction of the results of decompression that was not optimal by his criteria. As the author allows that not all his eighteen points may ultimately prove valid, it is best to leave them individually unchallenged.

The book opens with three well written chapters on the fundamental aspects of hyperbaric physiology and these chapters form a basis for the development of the author's theories in subsequent chapters.

All in all, it is an interesting and challenging book, the success of which can be measured by the interest with which the next volume is awaited. It is clearly for keen students in the field of decompression theory and, if they disagree with some of the theories advanced, they should be aware that it is a field wherein no one agrees with any concepts other than his own. However, it is a friendly battle conducted by civilised opponents. If you care to join it, this book really is an essential part of your armament.

RRP

EMERGENCY SURGERY. Edited by H.A.F. Dudley. 10th edition. Pp 1017. Bristol: John Wright & Sons. £25.00.

With the ever evolving and increasingly complex development of surgical practice it is evident that the era of the single author textbook of surgery is past.

In this 10th edition of Hamilton Bailey's emergency surgery Professor Dudley and his contributors have fulfilled the aim and preserved undiminished the incomparable and indelible imprint of its original author. Like its predecessors, this edition is simple, direct and comprehensive. With some minor transpositions and judicious pruning of the text, all the topics covered in the previous edition are presented again.

The early chapters on disaster planning organisation to cope with the continued violence of our urban societies and the increasing accidents on our roads is an unpleasant reminder that yet another dimension has been added to the practice of emergency surgery. This volume is indispensable to both the surgical trainee and to the established surgeon responsible for the care and management of the acutely ill surgical patient.

The book cannot fail to find its place on the book shelf of every operating theatre.

ACB

AN INTRODUCTORY TEXTBOOK OF MEDICINE. J.J. Connon. Pp 373. London: Lloyd Luke (Medical Books) Ltd. £4.75.

The author states that his intention is to give a bird's-eye view of medicine, primarily for the medical student embarking on clinical studies, but also for nurses, physiotherapists and radiographers. In this difficult task he has succeeded, covering the subject with clarity, and in fair detail, in a little over 350 pages.

The subjects are covered by systems, and each disorder is described logically, from definition, through pathophysiology, clinical manifestations, diagnosis, treatment and prognosis. The result is a clear impression of what is being described, with perhaps more than enough detail than might be expected from a "bird's-eye view". There is a useful appendix of lists covering aetiology and manifestations of common disorders.

This is a practical and readable primer of medicine, presented with clarity, and should provide a useful bridge between pre clinical and clinical studies.

AJL

HANDBOOK OF LEPROSY. W.H. Jopling. 2nd edition. Pp 139. London: William Heinemann Medical Books Ltd. £3.75.

Leprosy is a fascinating infection, for its clinical presentation is dependent upon the immune capability of the host. To study it, therefore, is not only to learn more of the disease, but also to take an object lesson in immunology. This excellent second edition of a book, whose first edition was widely proclaimed as an authoritative statement about leprosy, is written by one of the leading workers in the field and is completely up to date. No membership candidate can afford to miss the opportunity of studying this short text and the 20 colour plates, which may prove invaluable to him in the examination. For everyone else it promises a stimulus to immunological thinking that could change concepts of disease in their own fields.

PDC

YEAR BOOK OF NUCLEAR MEDICINE. Edited by James L. Quinn III. Pp 390. London: Year Book Medical Publishers. £21.25.

The 1978 Year Book of Nuclear Medicine continues to be one of the most useful review books of the many nuclear medicine articles appearing in print during the preceding year or two. One of its greatest attributes is the scope and depth of coverage revealed, including many international and foreign journals seldom read by those in the nuclear medicine field. This survey is perhaps the most important feature of the Year Book since it often serves to highlight work which would be missed by those who read the standard nuclear medicine journals.

The quality of the abstracts remains good, containing pertinent, concisely stated information enlivened by the editor's occasional pithy comments. Articles worthy of more detailed study are indicated but it is sometimes difficult to gauge the quality of others. A system for grading original articles in descending order of importance would certainly be of use in this context.

The overall subject matter and topics covered are adequate although, understandably in such a concise review, some subjects may appear in insufficient depth for those tending to specialise in certain aspects of nuclear medicine. Be that as it may, the bibliography remains excellent and the primary purpose of reviewing all the pertinent literature has been achieved once again.

This Year Book maintains the high standards of its predecessors and can again be recommended for nuclear medicine physicians and those clinicians who use and maintain a special interest in nuclear medicine techniques.

MAM

EXPEDITION MEDICINE: A PLANNING GUIDE. R.N. Illingworth. 2nd edition. Pp. 32 Brathay Hall Trust, Ambleside, Cumbria. £1.00.

If you have ever been approached by some enthusiastic expedition leader requesting a "chat to his lads" who are about to undertake some trip into the wilds — and also as an aside "would you make up a small first aid kit for them, Doc?" — then this little book is an essential companion for your library and will save you a considerable amount of thinking time.

The booklet does not contain information which is unfamiliar to the majority of Service medical officers, but it assembles within its 32 (14½ x 21 cm) pages the basic fundamentals of medical advice for expedition leaders. The 34 references in the bibliography will provide a useful starting point for the individual who may want to expand his knowledge on some specific points.

There is an excellent section on the recommended contents of first aid kits for various types of expedition, which again would serve as a very useful basis on which to build your advice.

For the £1.00 cost (including postage) I would thoroughly recommend this little book to all Service medical officers who may be called upon to give advice to expedition parties from ships and establishments.

FSICG

principal components analysis and a physiological model suggested by Miller, Diffey and Fleming (1979).

$T(t) = C_1 - C_1 e^{-kt}$
where C_1 and k are constants.
It is clear that the activity in the tissue

SERVICE NEWS

OBITUARIES

SURGEON COMMANDER (D) M.J. SWANN, MSc, BDS, RN, died on January 7, 1979, at the age of 39.

RSJH writes:

Mike Swann was born in 1939 in Strabane, Northern Ireland, educated at Coleraine "Inst" and the Queen's University of Belfast from which he graduated BDS in July 1962.

After a year in general practice, he joined the Navy as a Surgeon Lieutenant (D) in 1963 and, following Officers' Divisional Course and a brief spell in *HMS Collingwood*, he was appointed to *HMS Albion* just prior to a lengthy East of Suez deployment.

On returning to the United Kingdom, Mike was appointed to *HMS Sea Eagle* in Londonderry and during three years there he met and married Angela, transferred to a permanent commission, was selected to represent the Royal Navy at golf, and in July 1967 was promoted Surgeon Lieutenant Commander (D).

On moving to Singapore and *HMS Terror* in 1970 he took over the reins of the Far East Naval Golfing Society and became vice captain of the Sembawang Golf Club. He performed these extra curricular duties so effectively that following the closure of *HMS Terror* in 1971 several thousands of dollars were available for transfer to the new country club at *HMS Dryad*.

During his next appointment with the Royal Marines, Mike found time not only to render dental treatment to the recruits but also to represent the Royal Navy at golf on a regular basis against the Air Force, Army and numerous counties.

In 1975 Mike returned to the academic environment where he read for a Master of Science degree in prosthetic dentistry at the University of London, and the same year he was promoted Surgeon Commander (D).

Following the Masters degree, he was appointed to *HMS Nelson* to oversee the dental laboratory and to solve the problems of prosthetic patients referred from the various outlying establishments.

As recently as July 1978 Mike was representing Portsmouth in the intercommand golf championships at Deal but by this time he was beginning to show signs of ill health.

He was admitted to Haslar for investigation in October and tragically died following a short illness borne with incredible courage, fortitude and cheerfulness.

Mike will be remembered as a fun loving, charming Irishman who was a first class dentist, a very talented sportsman and an irreplaceable messmate. The Navy and, more specifically, the Dental Branch can ill afford to lose such a personality — he will long be missed.

SURGEON CAPTAIN (D) D.M. PAGE, BDS, RN died suddenly at his home on March 8, 1979. An obituary will be published in the Summer issue of the Journal.

SURGEON COMMANDER DENNIS W. PRATT, MB, BCh, RN died on January 24, 1979, at the age of 68 years. An obituary will be published in the next issue of the Journal.

SURGEON CAPTAIN K.W. MARTIN, VRD (Clasp), MA, MRCS, LRCP, MRCGP, RNR died at the Western Hospital, Southampton, on September 17, 1978, at the age of 69.

Kenneth Waddelow Martin qualified at St Bartholomew's Hospital and his association with the Royal Navy began in 1931 when he joined the RNR as a Surgeon Sub Lieutenant. His wartime appointments included *HMS Dorsetshire, Victory, Cabot and Corfu*, and he was released as a Surgeon Captain in 1945, having been awarded the VRD with clasp. In 1948 he re-entered the RNR and was appointed Honorary Physician to the Queen in June 1960.

Dr Martin was in general practice in Brockenhurst for many years. On his retirement in 1970 he moved to Mudeford where he was active in church circles and also indulged his love of sailing.

He is survived by his wife and two daughters.

SURGEON LIEUTENANT COMMANDER J.K. BLACK, VRD, MB, BCh, BAO, FFARCS, FFARCSI, DA, RNR died suddenly on November 9, 1978, at the age of 63.

James Knowles Black graduated at Queen's University, Belfast, in 1941 and shortly afterwards entered the Royal Naval Medical Service. His appointments included *HMS Pembroke, Victory, Varbel and Exmoor* and he was at Dieppe. He transferred to the London division of the RNR in 1947 and was placed on the retired list in 1960. Service at a midget submarine base stimulated an interest in respiratory problems and led to his subsequent career in anaesthetics. He was consultant anaesthetist to North Wirral from 1952 until his retirement in 1976. Dr Black is survived by his wife, Margaret.

RN MEDICAL AND DENTAL OFFICERS

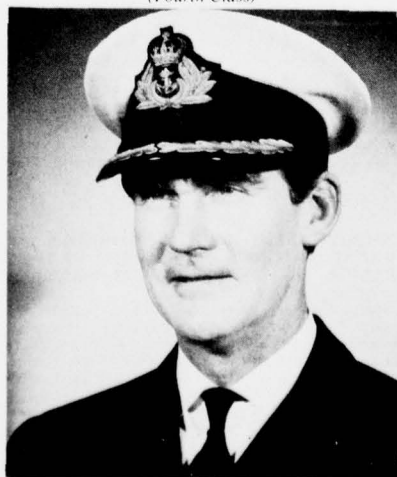
NEW YEAR HONOURS 1979

Commander of the Order of the British Empire



Surgeon Commodore J. Keeling, QHP

Member of the Royal Victorian Order (Fourth Class)



Surgeon Commander D.A. Lammiman

HIGHER QUALIFICATIONS

Surgeon Captain M.C.H. Jackson — FRCOG
 Surgeon Captain J.H. Sewart — MFOM
 Surgeon Captain P.J. Truesdale — MFOM
 Surgeon Commander D.W.D. Evans — FRCOG
 Surgeon Commander J.M. Young — MFOM
 Surgeon Lieutenant Commander C.J. Churcher Brown — MRCPsych
 Surgeon Lieutenant Commander W.M. Edmondstone — AFOM
 Surgeon Lieutenant C.C. Hunter — DPM
 Surgeon Lieutenant P.J. Shouler — FRCS

PROMOTIONS

To Surgeon Lieutenant Commander:
 P.M.R. Millard: R.A. Moody: R.C.O. O'Neill

To Surgeon Lieutenant Commander (D):
 D.B. Graham: J.F. Hawkins: C.M. Patterson

To Surgeon Lieutenant:
 I.K. Ritchie

To Surgeon Lieutenant (D):
 R.A.S. Baxter: P. Hodgson: S.I. Reeves:
 N.R. Sturgeon

To Acting Surgeon Lieutenant:
 A.C.D. Renouf: A. Quail: S.J. Squires

Provisional selections for promotion to date June 30, 1979:

To Surgeon Captain:
 E.P. Beck: D.A. Lammiman: R. Radford

To Surgeon Commander:
 W.M. Abbott: C.W. Evans: A.H. Osborne:
 T.G. Shields

To Surgeon Commander (D):
 L.C. Langan

NEW ENTRIES

Surgeon Lieutenant Commander C.R. Kershaw
 Surgeon Lieutenant Miss N.A. Pool
 Surgeon Lieutenant (D): Miss A.P. McGuinness:
 R.M. Stevenson
 Surgeon Sub-Lieutenant: V.J. Harten: Ash:
 J.M. Neary: D.R.D. Roberts: N.S. Sandhu
 Surgeon Sub-Lieutenant (D): Miss J.D. Jenkins:
 C.R. Priestland

**TRANSFERRED TO FULL CAREER
COMMISSION**

Surgeon Lieutenant (D): D.L. Thomas

**TRANSFERRED TO 16 YEAR MEDIUM
CAREER COMMISSION**

Surgeon Lieutenant Commander G.L. Robertson
Surgeon Lieutenants: P.J. Shouler: J.C.D. Turner

**TRANSFERRED TO 8 YEAR CAREER
COMMISSION**

Surgeon Lieutenant (D): D.C.C. Alexander

RETIREMENTS

Surgeon Captain J.D. Stewart
Surgeon Commander P.P.M. Browne
Surgeon Commander D.M. Davies, OBE
Surgeon Commander J.S. Soutar
Surgeon Commander (D) K.R. Needham

**RELEASED FROM SHORT CAREER
COMMISSION**

Surgeon Lieutenant Commanders: P.H. Gibson:
R.G.C. McKinlay
Surgeon Lieutenants: C.G. Dixon: R.W. Harvey:
D.G.L. Pickering
Surgeon Lieutenant (D) R.M.J. Owen

MEDICAL SERVICE OFFICERS

NEW YEAR HONOURS 1979

Associate of the Royal Red Cross
Fleet Chief Medical Technician D. Johnson

PROMOTIONS

To Acting Sub-Lieutenant:
D.J. Golding

RETIREMENT

Lieutenant E.T. Martin

**QUEEN ALEXANDRA'S
ROYAL NAVAL NURSING SERVICE**

NEW YEAR HONOURS 1979

Associate of the Royal Red Cross

Superintending Sisters: Miss H.E.J. Gillespie:
Miss E. Meiklejohn: Miss M.E. Williams

PROMOTIONS

To Matron:

Superintending Sister Miss P.M. Graystone

To Superintending Sister:

Miss J. Massey: Miss L.J. Richards

ROYAL NAVAL RESERVE

PROMOTIONS

To Surgeon Lieutenant Commander:
W.M. Luke

**Provisional selections for promotion to date
June 30, 1979**

To Surgeon Captain (D):
H.K. Kemp

To Surgeon Commander:
J.C. Sharp: H. Simpson

RETIREMENT

Surgeon Lieutenant Commander T.R. Abbott

VISIT OF CHINESE MEDICAL DELEGATION



Surgeon Rear Admiral J.A.B. Harrison, QHP, and Surgeon Captain C.O. Hughes, OBE, QHP with officers of the Chinese Medical Delegation on the occasion of their visit to the Institute of Naval Medicine on November 22, 1978.

Surgeon Captain P.W. Head, OBE, QHS, Medical Officer in Charge, making a presentation to the leader of the Chinese Medical Delegation at the Royal Naval Hospital, Haslar.



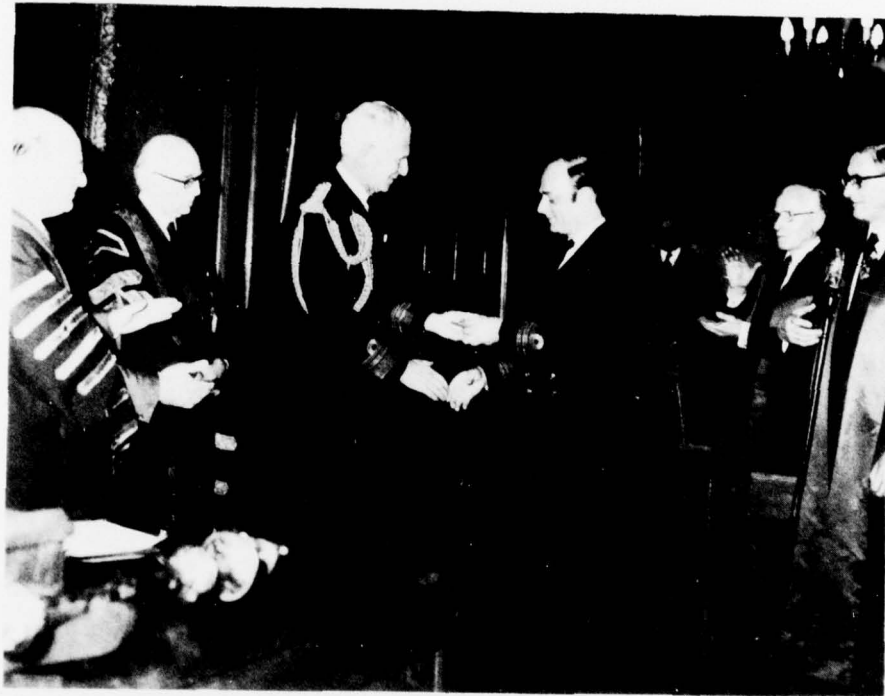
On the medical side, it was indeed an irritating and frustrating experience. I

neat parcels and selling them to our own sailors, rationing still being in existence.

Service News

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THE GILBERT BLANE MEDAL 1978



Surgeon Vice Admiral Sir John Rawlins, KBE, QHP, presenting Surgeon Commander R.H. Hunt with the Gilbert Blane medal for his thesis on colonoscopy in clinical practice. The award was made at the Council Meeting of the Royal College of Surgeons on January 11, 1979.

**AWARD OF HARBEN GOLD MEDAL TO SURGEON CAPTAIN T. L. CLEAVE,
RN, Retd**



Surgeon Captain T. L. Cleave RN (Retd) is to be awarded the Harben Gold Medal of the Royal Institute of Public Health and Hygiene in recognition of eminent services rendered to the public health. This is a most prestigious award and Surgeon Captain Cleave will be the first naval medical officer to be so honoured.

By courtesy of F. Hughes, Fareham

The Harben Gold Medal is awarded at least every third year by The Harben Trust, created in 1894 by the late Sir Henry Harben, then Master of the Worshipful Company of Carpenters. Previous Gold Medallists include Louis Pasteur, Lord Lister, Robert Koch, Eli Metchnikoff, Lord Adrian and Alexander Fleming, and the 1976 award was made to Sir Richard Doll.



NOTICE

THE EDITOR invites medical and dental staff to send in original papers on professional subjects, travel, personal experiences and other matters. Items of news and matters of interest to the naval medical service will be welcomed from ships and establishments on home and foreign stations. Notices of births, marriages and deaths are inserted free of charge to subscribers.

Articles and communications may be sent at any time to **The Editor, Journal of the Royal Naval Medical Service, Institute of Naval Medicine, Alverstoke, Hants, PO12 2DL**. Two copies should be submitted in typescript. Double spacing should be used throughout.

References — the name of the author and the date of publication are given in the text thus 'Smith (1935) believed this to be due, etc . . .' or ' . . . lack of basic information on the strategic fundamentals of the science of the sea (Carlson, 1956)'. The list of authors quoted is put at the end of the article in alphabetical order. Each reference in the list should give, in order, the author's name, initials, the year of publication (in brackets), the title of the paper, the name of the journal *in full*, the volume and the number of the first and last pages. For books, the place of publication should be stated and the publisher's name.

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